DOCUMENT RESUME

ED 048 162 SP 007 049

TITLE Resource for Learning in Health Education. Grades 1-12.
INSTITUTION Sunnyside School District, Tucson, Ariz.
NOTE 282p.

EDRS PRICE EDRS Price MF-$0.65 HC-$9.87
DESCRIPTORS *Alcohol Education, *Curriculum Guides, *Drug Abuse, Elementary Education, Grade 1, Grade 2, Grade 3, Grade 4, Grade 5, Grade 6, Grade 7, Grade 8, Grade 9, Grade 10, Grade 11, Grade 12, *Health Education, Secondary Education, Smoking, *Tobacco

ABSTRACT

GRADES OR AGES: 1-12. SUBJECT MATTER: Health education, tobacco, alcohol, and narcotics. ORGANIZATION AND PHYSICAL APPEARANCE: The introductory material discusses pre-planning and the general characteristics of physical development in early school, upper elementary school, and preadolescence. The material for grades 1-3 covers the body, human growth, community health, and safety and first aid. The three major sections of the guide cover tobacco, alcohol, and drugs, each subdivided for grades 4-6, 7-9, and 10-12, with columns dealing with references, concepts, learning experiences, and information. The guide is mimeographed and spiral-bound with a soft cover. OBJECTIVES AND ACTIVITIES: The major objectives are listed at the beginning of each subsection. Suggested activities are included in the learning experience column throughout the guide. INSTRUCTIONAL MATERIALS: Films and other materials are suggested in the text. STUDENT ASSESSMENT: No provision is made. (MBM)

ED048162

RESOURCE

FOR

LEARNING

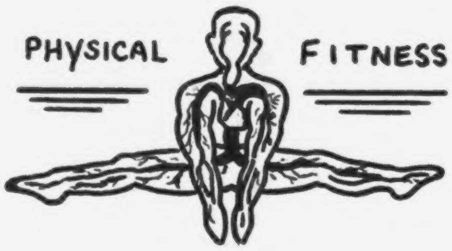
IN

HEALTH EDUCATION

U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
OFFICE OF EDUCATION
THIS DOCUMENT HAS BEEN REPRODUCED EXACTLY AS RECEIVED FROM THE PERSON OR ORGANIZATION ORIGINATING IT. POINTS OF VIEW OR OPINIONS STATED DO NOT NECESSARILY REPRESENT OFFICIAL OFFICE OF EDUCATION POSITION OR POLICY

GRADES 1 THRU 12

Sunnyside School District
Tucson, Arizona



SP007049

TABLE OF CONTENTS

Acknowledgements v
Foreward viii
Preface ix
Program Objective x
Pre-Planning xi
Principles of Learning xii
Characteristics of Development xiii
Grades 1 - 3 1
Tobacco (4 - 6) 7
Tobacco (7 - 9) 25
Tobacco (10 - 12) 65
Bibliography (Tobacco) 107
Alcohol (4 - 6) 113
Alcohol (7 - 9) 127
Alcohol (10 - 12) 145
Bibliography (Alcohol) 171
Narcotics (4 - 6) 177
Narcotics (7 - 9) 193
Narcotics (10 - 12) 225
Bibliography (Narcotics) 261
AGENCY INFORMATION 267

PREFACE FOR HEALTH EDUCATION CURRICULUM MATERIALS

These resource materials in the area of Health Education for the Sunnyside School District are the result of a great deal of planning, study, discussion, evaluation, and writing.

Sincere appreciation for the diligent work that has produced these materials is expressed to all who made a contribution. We particularly wish to express appreciation to Dr. Floyd Rees, professor of health education at the University of Arizona. Our special thanks go to Mr. Frederick Bull of the administrative staff, who coordinated the project, and to the other professional staff members who have devoted much time and effort to the completion of the task:

Jorene Bell
Karen Chambers
Kenneth Deitering
Oletha Gustus
Reuben Strandine
Marjorie Sydow
Susan Toles

Fostering the health of our young people becomes a basic purpose of our schools. If we consider health in a broad sense, it is a way of living, a way of thinking, a way of directing oneself, and a way of relating to others.

Our health program should focus attention on all aspects of health--physical, mental, emotional, and social. It should be concerned with freedom from illness, physical growth and development, and mature emotional attitudes of oneself and others.

The home and family, of course, have a primary responsibility for providing for the total health of youngsters, but the school has a unique opportunity and responsibility to contribute to the total health education of each student. Therefore, it is essential to keep in mind that we must provide an environment and plan experiences to meet the needs of growing, developing, and learning children. Such a program would have the following as appropriate health goals:

- -Do your children understand and practice good health habits? Do they make good food selections? Can they determine the amount and type of rest and relaxation they need?
- -Do they have a basis for making decisions on whether to smoke? To accept food--or rides--from strangers?
- -Do they understand and practice good safety skills in the classroom? Corridors? On the playground? Street and Sidewalks? On the bus?
- -Do they have a basis for understanding and judging misleading advertising on self-medication? Personal grooming? Alcoholic beverages? Other?
- -Do they understand communicable diseases and take necessary precautions in relation to them?
- -Do they have good attitudes toward going to the dentist? the doctor? Do they visit them regularly?
- -Can they cope with their emotions? Do they understand their fears? How equipped are they to handle what worries them?

-Are they equipped to make decisions and choices about themselves and their activities without always relying on their peer groups?

-Do they make good choices on the use of their leisure and play time? Do they have adequate skills, interests and willingness to learn new skills which have been missed in order to make rich and varied selections?

-Do they have a basis for balancing their in-school and out-of-school programs? Are they able to go "out" and do "nothing." Do they experience time--to think? To enjoy? To listen? To observe?

-How well do they understand the concept of "growing up?"

-What can we do to strengthen their background in all these areas?

The materials developed by the members of our professional staff mentioned above are to serve as a teacher resource in attaining the goals.

Ron Anderson

FOREWARD

Children are faced with many critical issues today, and the school's responsibility is to provide children with objective information which can help them begin to resolve these issues.

This guide, with its resource materials for teacher and students, has been prepared to help teachers emphasize the latest available information relative to critical issues confronting our young people of today. This publication is planned as a work tool and is intended to be used as a guide. It is not intended as a blue-print or a complete textbook. By following the general principles outlined in this guide teachers should be able to organize effective health instruction units and thereby improve the health status of their pupils.

PREFACE

Good health is essential to the most effective living and is an important goal of education. The primary responsibility for the health of the child rests with the parents who have the obligation of providing adequate medical and dental care as well as home conditions conducive to good physical, emotional and social health. This responsibility gradually becomes the child's as he matures. The school health program reinforces and complements the efforts of the home.

The success of the school health program depends upon the ability of many different organizations working together, since the services of many professional workers and agencies are needed in the school health program. The quality of administrative leadership which the principal contributes has a great deal to do with how the people concerned work together and, as a consequence, the extent to which the objectives of the health program are realized.

The School Health Resource Guide is a statement of the purposes, scope and sequence of the school health program. The school health curriculum plan includes all the experiences offering health education opportunities under the guidance of the school; health services, school breakfast and lunch programs, physical education, as well as related and direct health education in class groups.

PROGRAM OBJECTIVE

The major objective of the school health program is good physical and mental health, and the development of positive attitudes, habits and understandings about personal and community health which can lead to a healthy and happy adjustment to life for each child. The conditions under which children live in school, the help they are given in solving their health problems, the ideals of individual and community health which they form, and the information and the understanding that they acquire of themselves as human beings influence the development of attitudes and behavior conducive to healthy, happy, and successful living. In all of its efforts the school needs to consider the total personality of each pupil and the mutual interdependence of physical, social and emotional health.

PRE-PLANNING

Suggestions for your planning BEFORE beginning your unit.

1. Become acquainted with materials in both student and teacher envelopes and plan their use.

2. Notify school librarian of your use of the unit so each can better be prepared to assist the students when help is needed.

3. Organize a materials committee within your respective buildings if you are going to request individual materials from the agencies. (See information in back.) Order these materials in advance so that they are available when the students need them.

4. Check out audio-visual materials from your school library. Decide which materials you are going to use and reserve them in advance. The junior high and senior high schools have available to them the filmstrips from a series entitled "Tell It Like It Is", and the 3M Secondary Unit on "Mood Modifiers."

5. Select which films and film strips you are going to use and reserve them. Instructions for obtaining these materials are under Film Information at the end of each unit.

6. Plan space either in each student's loose-leaf notebook, or a separate smaller notebook to be reserved for the work-vocabulary, notes, bibliography lists, discussion points, film evaluation, questions and other related materials to be organized for clear understanding and review study.

7. Prepare a questionnaire to determine students' habits and attitudes about smoking. Give before and after the unit to determine the effectiveness of the work. This is a good student committee project to stimulate interest. Small student committees working in close cooperation with the teacher can adequately and accurately compile the summary and figures.

8. Be aware that each agency listed is ready to give further assistance in providing materials and arranging for resource people.

SOME ESSENTIAL PRINCIPLES OF LEARNING

All children and youth must be given opportunities to think and reason about the materials of learning.

Learning takes place when problems are real and meaningful and when the individual participates actively and effectively in the learning situation.

Materials of learning must be related to the individual's actual experiences. Instruction must capitalize on these experiences; not ignore or run counter to them.

Isolated facts are soon forgotten. Children and youth should be helped to discover generalizations by relating and applying facts in new situations.

Drill is an aid to learning when a response needs to be made precise and efficient and when practice is meaningful.

Learning takes place when the learner is interested in gaining and retaining the materials of learning.

Learning experiences must be geared to the pupil's mental, physical, and social maturity.

Learning experiences are effective when they help the individual reach the goal he sets for himself, and when he sees the relationship of one experience to a larger whole.

A variety of activities and instructional material must be provided, because each pupil learns in his own way and at his own rate.

GENERAL CHARACTERISTICS OF DEVELOPMENT

Human beings grow and develop in accordance with very similar patterns:

All follow similar sequences of development from birth to maturity

All react to factors in the environment in basically the same ways (interest, cooperation, fear, aggression, withdrawal)

All require feelings of personal satisfaction and satisfaction in relation to others and to things in order to maintain mental health and balance

All are interested in becoming acquainted with the world in which they live

Basic differences, however, are found among individuals of the same chronological age:

Each moves through the growth sequences toward maturity at his own individual rate. Among children of nine, for instance, are both those children who are maturing slowly and resemble younger children and those who are maturing rapidly and resemble children who are older.

Each utilizes his own unique capabilities in order to learn

Each forms ways of behaving which help him meet situations in which he finds himself

Each comes from a different background of experiences and has developed different understandings

Teachers find it necessary to study each individual in any year of school in order to help each develop well at his own rate and according to his own best ways of learning.

At any age level wide variation is found in all abilities and understandings. Reading ability alone varies as much as five years in an average group of children or may vary even more. The individual may show great variation within his own abilities, according to his growth pattern and experiences.

PHYSICAL DEVELOPMENT AND IMPLICATIONS FOR TEACHING AND CHARACTERISTIC REACTIONS

EARLY SCHOOL YEARS

PHYSICAL DEVELOPMENT	
Period of relatively slow growth. Body lengthens out, hands and feet grow larger. Heart in period of relatively rapid growth.	Provide frequent, short periods of rest or quiet activities.
Activity level high--child can stay still for only short periods. Attention span still short, but increasing.	Encourage eleven to twelve hours of sleep daily. Have diversified activities. In the latter periods of this stage, many children are accident prone. This calls for careful placement of furniture and equipment.
Large muscles remain better developed than small ones; improved coordination of small muscles by seven or eight.	Give ample opportunity for activities of many kinds, especially for use of large muscles. Gradual introduction of activities that require coordination of smaller muscles.
Eye-hand coordination improving steadily.	Observe children closely to identify those with visual difficulties.
Eyes not ready for much near work until eighth year. At about this age near-sightedness may begin to develop.	Provide and maintain correct physical environment--glare, seating, lighting. Observe children closely to see that they are practicing correct health habits. In planning activities, provide for only short periods of close work. Encourage correct posture in reading and writing activities.
Handedness and eyedness established by beginning of period and should not be changed.	Give special attention to seating arrangement.
Baby teeth being replaced by permanent ones.	Capitalize on the high interest shown to help children understand the development of their teeth.

CHARACTERISTIC REACTIONS

Learns best through active participation and concrete situations. Little abstract thought.

Enjoys songs, rhythms, fairy tales, myths, nature stories, true stories, comics, radio, movies, and T.V. By end of period becomes interested in collections and adventure stories.

Continues growing from dependence to independence.

Can take more responsibility, but often "forgets". Still needs some adult supervision.

Learns to work out group plans and to cooperate with members of a group.

Makes much of "fairness"--demands own turn and own rights. Becomes competitive. Likes to make rules.

Understands safety precautions, but may forget or be over-daring, especially toward end of period.

Expresses feelings about adults. Resents being told what to do--"too bossy", "not fair".

Increases in ability and accuracy.

Is eager and curious--wants to learn.

Grows from interest in present and immediate reality to interest in past.

Wants and needs adult approval.

Boys and girls play together, but differences in play and interests become marked.

Is more interested in the activity than in the end result.

Is more spontaneous in dramatization; ready for simple classroom dramatics.

Moves from dependence on approval of adults to beginning of dependence on approval of peers.

Is able to evaluate self better; anxious to do well.

Is growing in understanding of time and of the use of money.

Is concerned about right and wrong.

Is eager--more enthusiasm than wisdom.

Is full of energy but tires easily; restless, often dreamy and absorbed.

UPPER ELEMENTARY SCHOOL YEARS

PHYSICAL DEVELOPMENT	IMPLICATIONS
Slow, steady growth continuing for most children. Some, especially girls, forge ahead and reach the plateau preceding the growth spurt of adolescence. A few enter the stage of rapid growth marking the start of puberty.	Encourage ten to eleven hours of sleep. Allow boys and girls to play separately at times.
Energy level high for those not maturing, but children often play to point of fatigue.	Supervise rough and tumble play. Observe closely and stop active work or play at sign of fatigue. Give instruction in recognition of fatigue--body reactions to fatigue. Acquaint children with some relaxing activities. Include in daily program a sequential provision for stationary activities followed by locomotor activities.
Lungs, digestive and circulatory systems almost mature.	Give instruction on how bodily organs function.
Heart growing less rapidly.	
Permanent teeth continuing to come in. Need for orthodontia may become apparent.	Provide for the study of the functions of teeth as aids to digestion, speech and appearance.
Nearsightedness or other defects may become apparent.	Observe closely for symptoms of eye defects.

PHYSICAL DEVELOPMENT	IMPLICATIONS
Muscles better coordinated, manipulative skill increasing. Child becoming ready for crafts and shop work.	Provide training in physical and manual skills.
Poor posture sometimes develops.	Give close attention to furniture--providing desks and seats that fit properly. Supervise posture as children sit, stand or walk.
Attention span longer.	Provide activities that require increasingly longer periods of concentration.

CHARACTERISTIC REACTIONS

Shows greater responsibility, dependability, reasonableness; has developed strong sense of right and wrong.

Shows evidence of individual differences which become distinct and clear; wide discrepancies in ability and interests appearing.

Becomes capable of prolonged interest--often makes plans that carry over a period of time; may go ahead on his own.

Is interested in one sex only as gang instincts are strong, of short duration and changing membership; stronger among boys than among girls. Girls tend to cling to two or three good friends.

Is somewhat of a perfectionist--wants to do well; but loses interest if discouraged or pressured.

Is interested less in fairy tales and fantasy, more in stories about boys and girls, science, adventure, and the world about him. Understands relationship of past, present and future.

Is loyal to country and takes pride in it.

Spends much time in talk and discussion; is often outspoken and critical of adults, although still dependent upon adult approval. Argues over fairness in games and making of rules.

Often breaks up friendships because of different rates of maturing, resulting in different interests. Child nearing puberty needs different program from child who is still immature.

Shows inclination to tease opposite sex.

Is often overactive, hurried, and careless because of high energy level; may have accidents.

Is learning to cooperate better; takes active part in group planning and group activities, though still reluctant to give up own wishes. Much arguing in developing plans.

PREADOLESCENCE

PHYSICAL DEVELOPMENT	IMPLICATIONS
Wide variations in rate of development become strikingly obvious.	Help in understanding the physical and emotional changes beginning to take place.
Beginning of puberty is marked by a period of rapid but uneven growth following a plateau period in both height and weight.	Plan program to minimize fatigue and tensions.
The "pubescent spurt" usually starts between nine and thirteen; some children grow most rapidly between ten and twelve years; others between fourteen and sixteen; some boys not until seventeen.	Provide a planned program of physical activity. Stress need for eight to ten hours of sleep.
Girls usually taller and heavier than boys during this period and about two years ahead of boys in development.	
Reproductive organs maturing; secondary sex characteristics developing.	Provide instruction in the physical and biological changes taking place. Help develop understanding of reactions to these changes.
High energy among those not yet maturing; periods of restlessness, fatigue, and seeming laziness among those who are maturing.	Teacher should show warm understanding and sense of humor. Develop skill of relaxation.
Usually twenty-eight permanent teeth by thirteen or fourteen.	Provide instruction in the physical development of human beings.
Heart not developing as rapidly as rest of body; bone growth not always matched by corresponding muscular development.	Understand that spurts of growth make undue demands on the physical, mental and emotional well-being.

PHYSICAL DEVELOPMENT	IMPLICATIONS
Unevenness of growth means features, hands, feet, legs often out of proportion for a time.	
Awkwardness, poor control, and poor posture often result from uneven growth.	
Enormous but often uncertain appetite.	

CHARACTERISTIC REACTIONS

Seeks acceptance by age-mates.

Gangs continue, though loyalty to gang stronger among boys than girls.

Sometimes much teasing and seeming antagonism between boys' and girls' groups.

Those who are maturing beginning to show interest in other sex.

Is interested in team games, outdoor activities, pets, hobbies, collections, radio, T.V., comics, movies, activities to earn money. Interests of boys and girls diverging.

May become moody, overcritical, changeable, rebellious, uncooperative.

Opinion of own group beginning to be valued more highly than that of adults.

Can work cooperatively on teams and in groups. Strong emphasis on fairness and on rules.

Is self-conscious about body changes.

CHARACTERISTIC REACTIONS	NEEDS
Shows intense loyalty to own group.	Help in keeping a balance between group needs and individual needs and interests.
Desires acceptance by age-mates.	Guidance in developing special skills and talents.
Has adequate knowledge and understanding of sexual relationships and attitudes.	Help in accepting and understanding those outside own group, with recognition and acceptance of differences between people.
	Help in understanding why people feel and behave as they do.

INTRODUCTION

Grades 1 - 3

I. Although no specific unit is taught in primary grades on alcohol, tobacco, and narcotics, if a question should arise in the classroom the teacher should present only those pertinent facts on the level of the pupil's understanding to meet the needs of the immediate situation.

II. Emphasis is placed on the body, human growth, community health, safety and first aid as presented in the Arizona State Health Guide for Elementary Schools, pages 10 through 19.

III. In an effort not to duplicate adequate material which is already available in the Arizona Health Guide, no attempt has been made to restate this material. Recognizing the need for more adequate audio visual materials which correlate readily with curriculum, we have obtained some new films and filmstrips. These and other materials already available in our district audio visual center have been correlated with the Arizona Health Guide.

THE BODY

Learning Experiences

1. Select a story or part of a story describing children with some physical handicaps and read it to the class. Discuss.

2. Pantomine activities such as washing hands, brushing teeth, sleeping, eating, etc., and have rest of the class guess.

3. Plan menus and have children use magazine pictures to illustrate them.

Note: Appropriate activities in this area are given in the Arizona Health Guide pp. 10-13.

Educational Media

SF 31 Your Teeth
SF 32 Your Eyes
SF 33 Your Ears
SF 30 Your Sleep and Rest
SF 267 Eat for Health
SF 269 Teeth are to Keep
SF 289 Milk
*SF How Billy Keeps Clean
FS 1697 Character Building Cleanliness
FS 1814 Kinds of Food

*This item is new and has not been assigned a number.

HUMAN GROWTH

Learning Experiences

1. Role playing -- what various members of the family do.
2. Play a game to help children recognize that it is good to be what they are. "I am glad I am a girl (boy) because ...."

Note: Appropriate activities in this area are given in the Arizona Health Guide, pp. 14-15.

Educational Media

*SF Beginning Responsibility: Lunchroom Manners

*SF Getting Along with Others

*FS They Need Me (4 strips in set)

*FS Mother Works Too (6 strips in set)

FS 500 Helping Mother

FS 729 Mother Cares for the Family

FS 949 Responsibility

FS 1025 Sharing with Others

Prepared Tape TS-17 -- Let's Help Mommy

Curriculum Color Print #125 -- A Family at Work and Play

*These items are new and have not been assigned numbers.

COMMUNITY HEALTH

Learning Experiences

1. Pantomine activities of a Doctor or a Dentist. Have class guess who it is and what is being done.
2. Discuss proper way to use a drinking fountain and why.

Educational Media

SF 34 Your Protection Against Disease

FS 318 The Doctor

FS 480 Health Helpers

Curriculum Color Print #124 - Hospital Helpers

Disney Study Prints #132 - Defense Against the Common Cold

Note: Appropriate activities in this area are given in the Arizona Health Guide pp. 16-17.

SAFETY AND FIRST AID

Learning Experiences

1. Play Red Light, Green Light.

2. Dramatize the dangers of speaking to or going with strangers.

3. Have the School Resource Officer come and talk to the class.

4. Have each child make a safety survey around his own home and note good and bad points. Pupils can give oral or written reports.

5. Visit local fire station.

Note: Appropriate activities in this area are given in the Arizona Health Guide, pp. 18-19.

Educational Media

SF 164	Safety in the Home
SF 165	Safety on the Street
SF 167	Safety on our School Bus
SF 169	Safety on the Playground
*FS and Record	The Legend of Patch the Pony (matching Poster available on request)
FS 215	At School
FS 216	At Home
FS 857	Playground
FS 992	Safety to and from School
FS 995	Safety in the Playground
FS 996	Safety at Home

Disney Study Prints:

#136	Pedestrian Safety
#131	Bicycle Safety
#135	Home Safety
#137	School Safety

*This item is new and has not been assigned a number.

SMOKING AND HEALTH

Unit for Grades 4-5-6

OVERVIEW

In view of the conclusive data indicating cigarette smoking as a contributing cause of lung cancer, and additional evidence indicating that other cardiovascular and respiratory illnesses may also be caused by smoking, the task of educating our population about the use of tobacco is urgent. If present lung cancer rates continue, we can expect that 1,000,000 of today's children will develop lung cancer during their lifetime.

Research indicates that nearly 10% of habitual smoking begins at the seventh grade level and that countless youngsters experiment with smoking at earlier ages. It is, therefore, essential that instruction concerning the use of tobacco be implemented in the intermediate grades.

OBJECTIVES

The pupil in the upper elementary grades should:

___be aware of current evidence on smoking in relation to health problems

___help students understand the advantages and disadvantages of smoking

___be encouraged to make realistic appraisals and a mature judgment about smoking

___understand reasons people have for smoking

___learn to evaluate the psychology of aovertising in relation to smoking

GLOSSARY

1.	Absorbed	Taken into
2.	Compiled	Collect and bring together information
3.	Decision	Settling of a question
4.	Deposited	Something left lying
5.	Exhale	To breathe out
6.	Hazard	Risk, danger, or peril
7.	Inhale	To breathe in
8.	Interpretation	Explanation
9.	Malignant	Very infectious, very dangerous
10.	Maturity	Fully developed or grown
11.	Mucous membrane	Lining of various organs of the body
12.	Nicotine	A poison found in the leaves of tobacco plants and responsible for some of the effects of smoking
13.	Passages	Channels through which air reaches lungs
14.	Physiological	Normal functioning of organs of body
15.	Ultimately	Finally; in the end

SMOKING

REFERENCE	CONTENT	LEARNING EXPERIENCE	INFORMATION
I History of Tobacco	Europeans learned about tobacco when they explored the New World.	Have the children write a paper about the early use of tobacco.	
			Records from Cartier's exploration indicate that Canadian Indians cultivated tobacco and smoked it in pipes.
	There is some historical evidence suggesting that the Aztecs and Mayans developed the first cigarettes.		
	Early users of tobacco were not aware of the consequences of smoking.		
	The colonists found that tobacco was a popular trade item and it became a major industry before 1700.		
	The introduction of cigarette-making machines was an important factor in the expansion of the tobacco industry.		
	Efforts to control the use of tobacco were evident in the latter 19th century. 1. Many states banned the sale of cigarettes.		
	As with the prohibition of alcoholic beverages, public sentiment overwhelmed the attempt to ban cigarette sales.		

REFERENCE	CONTENT	LEARNING EXPERIENCE	INFORMATION
	Tobacco production and distribution has become a very important segment of our national economy.	Encourage students to select topics for class reports.	Today, Americans are spending approximately $8,000,000,000 annually on tobacco products.
	The United States is a world leader in tobacco: 1. Production 2. Exportation 3. Consumption	As reports are given open class discussions.	During the 1960's the annual exports from the United States averaged between 20 and 25 billion cigarettes.
	Certain of our states base a large portion of their economy on the Tobacco Industry.		The Federal Governments' tax on cigarettes (8¢ per pack) produces nearly 2 billion 70 million dollars per year. The states realized an additional 1 billion 200 million dollars from their tobacco taxes.
II EFFECTS OF SMOKING		Compare the death rates from cardiorespiratory disease in 1930 with present rates.	Researches cited in the Surgeon General's Report indicate that the incidence of coronary heart disease is two to three times higher in smokers than in nonsmokers.
	The incidence of heart disease, lung cancer, and other respiratory diseases has increased rapidly since 1900. The incidence of lung cancer is increasing more rapidly than any other form of cancer and its increase parallels the increased consumption of cigarettes in the United States	Compare the increased rates of lung cancer, heart disease, etc., with the increased per capita consumption of tobacco. The students should be encouraged to note relationships between increased tobacco sales and the corresponding increase in lung cancer.	Lung Cancer is now the leading cause of cancer death among men. The lung cancer rate has increased ten times over what it was 30 years ago. While the per capita consumption of cigarettes (persons 15 yrs. and older) has increased approximately 30 times since 1900, there is a marked decline in the consumption of cigars and pipe tobacco.

REFERENCE	CONTENT	LEARNING EXPERIENCE	INFORMATION
	Present trends of increased cigarette smoking by women suggest that in the future, the incidence of lung cancer among women will approach that of men.	Invite a physician or school nurse to speak to your class about the increase in lung cancer, heart disease, and other illnesses associated with smoking.	More women smoke today than in past years. Research completed in February 1968 has shown that lung cancer and coronary heart disease rates have increased in female smokers. In 1916, the American public smoked 25 billion cigarettes, by 1964 the figure had risen to 524 billion cigarettes. It is estimated that a male smoker who has smoked for 20 years loses on the average about five years of his life expectancy.
	The reasons why young people begin to smoke are evidence that they are unaware of the hazards of smoking.	Students might suggest various reasons why young people begin to smoke.	
	Overwhelming evidence has been compiled which indicates cigarette smoking as a cause of lung cancer.	Discuss the nature of malignant growth, emphasizing the low survival rate from lung cancer.	Lung Cancer rates have increased ten times in the past 30 years. Lung cancer now kills over 41,000 Americans annually, and we can expect the number to increase.
	Incidence of Heart Disease is higher among smokers than nonsmokers	Display the American Cancer Society exhibit (a wheelbarrow of butts and a jar of tar.) Perhaps your students can create effective displays.	Lung cancer rate is approximately 20 times lower among nonsmokers.

REFERENCE	CONTENT	LEARNING EXPERIENCE	INFORMATION
	Other respiratory diseases are more common among smokers		
	The use of tobacco leads to "breathlessness" in the smoker.	Suggest that students ask smoking parents whether smoking has an effect on ones breathing and appetite.	One characteristic of smokers is their shortness of breath, due to congestion of the breathing passages by smoke and its by products
	Smoking is likely to reduce a person's ability to participate effectively in physical activities.	Display set of "I don't smoke" posters featuring outstanding athletes. (You can get these from the American Cancer Society.)	
	Professional athletes who smoke generally have superior ability which would probably improve if they didn't smoke.		
			Effects on the heart and circulation: 1. Increase in pulse rate 2. Contractions of small blood vessels 3. Lowering of skin temperature 4. Increase in blood pressure
			Other effects: 1. Chronic cough (in heavy smokers) 2. Unattractive brown stains on fingers and teeth 3. Lung cancer 4. Shorter life 5. Emphysems (possible)

REFERENCE	CONTENT	LEARNING EXPERIENCE	INFORMATION
			Effects on beginning smokers: 1. Dizziness 2. Faintness 3. Rapid Pulse 4. Clammy skin 5. Nausea 6. Vomiting 7. Diarrhea 8. Irritability 9. Possibly impaired vision or hearing All of the above effects may be associated with the beginners in smoking.
	Smoking is a major cause of fires	Invite a representative of your local fire department to discuss the topic--"smoking as a cause of fires."	The two leading causes of fires in the home are careless smoking habits and children playing with matches. The National Board of Fire Underwriters reports that 25% of the fires reported to them are caused by these two hazards.
		Arrange for a forester to visit your class to speak about forest fires.	Tobacco aniblyopia (dimness of vision) is common among smokers. Pipe and cigar smokers especially complain of difficulty during night driving. The implications for traffic safety are clear.

REFERENCE	CONTENT	LEARNING EXPERIENCE	INFORMATION
			The loss of wildlife and forests due to carelessly discarded cigarettes, cigars, and pipe ashes is very great.
III. YOUR DECISION ABOUT SMOKING	The young person's decision about smoking is one of several important decisions in his life and should be based on a firm foundation of scientific knowledge. Your decisions about smoking will greatly influence your health as an adult. Smoke from tobacco is made up of gases and particles PHYSIOLOGICAL EFFECTS When a person inhales smoke, these gases and particles enter his breathing passages and are deposited on the surfaces. Some are absorbed in the blood and some remain to produce damaging effects on the lining membranes	Students dramatize a situation in which a ten-year old is encouraged to smoke by his friends. Ask class members how they might have reacted in a similar situation.	It is estimated that 10% of habitual smoking begins in grade 7. Teachers in the intermediate grades should expect that experimentation with tobacco products will sometimes occur at much earlier ages. Lung tissue and bronchial tubes in particular are affected. Normally the surface of the breathing mechanism are kept clean by the movement of little "hair-like" structures called cilia. This means that dust particles etc. are sort of "swept away" by their movement. The cigarette smoke slows down or even stops this action. This means the "tar" will stay in contact with the surface over a longer period of time, with the results that irritation or infection may occur. It is thought that this may cause cancer.

REFERENCE	CONTENT	LEARNING EXPERIENCE	INFORMATION
	Men and women who began the smoking habit several years ago did not have the knowledge of the harmful effects of smoking that we have today.	Suggest that each student ask the following question of his parents. If you could make your decisions to smoke or not to smoke all over again, would you start smoking? If parents would explain why they answered the questions in the way they did, the class could compile results of the probe and probably develop quite a convincing list of reasons why smoking is undesirable. Compute the annual cost of smoking one pack of cigarettes per day.	A logical response to the students question--"why do my parents or doctor smoke, if we know that it is not a healthful habil?", is to point out that when many adults started to smoke, we lacked any scientific evidence linking smoking with heart disease, lung cancer, etc. This presents an excellent opportunity to illustrate the difficulty one has in "breaking" a well-established habit. One insurance company has declared 5% premium reduction for nonsmokers. Other companies are also considering this move.
	The decision to smoke or not to smoke should be based upon an intelligent interpretation of facts and not upon peer pressure or a personal desire to appear "grown up."	Have students survey the community to determine where No Smoking signs are posted. Discuss reasons why smoking is prohibited in these areas.	
	Each individual is unique and therefore each of us arrives at our decisions about smoking a different way.	Have students prepare a brief essay describing their personal reasons for making a decision about smoking.	Approximately two-thirds of our adult women do not smoke. More than one-third of adult men do not smoke.

REFERENCE	CONTENT	LEARNING EXPERIENCE	INFORMATION
	The disadvantage of smoking far outweighs and "advantages" one might imagine.	Ask students to fold a piece of notebook paper in half. On one portion have them write "The Advantages of Smoking." On the other portion of the paper have your students list "The disadvantages of Smoking." Ask each student to proceed to list all of the advantages and disadvantages he can think of. The teacher may combine the results later discuss the many disadvantages of smoking as compared to the few (if any) advantages.	FILM: Huffless-Puffless Dragon - Heart Society
	Whether the individual starts to smoke or not, the decisions is ultimately a personal one.	Film or film strip	Motivational research has demonstrated that in developing human behavior patterns it is desirable to involve the student in the process of decision-making.
	The disadvantages of smoking are overwhelming.		An objective evaluation of smoking should result in the conclusion that smoking is undesirable.
	One does not have to smoke to act grown up.	Divide the class into small groups of no more than five members each. Students select a leader for their group. Each group may discuss the topic "what makes a person truly grown up?"	

REFERENCE	CONTENT	LEARNING EXPERIENCE	INFORMATION
	The ability to make an individual, personal decision not to smoke in spite of the opinions and practices of friends and acquaintances is an evidence of maturity.	After 12 to 15 minutes of discussion reassemble the class and have each leader report on the discussion of his group. Encourage class discussion to determine those qualities which seem to characterize the mature person.	
	More frequent colds - they last longer Retardation of ciliary action may aggravate cold symptoms. Interferes with the ability to taste and enjoy food.		Although smoking does not stunt one's growth, any substance which acts as an appetite depressant would influence the intake of nutrients essential for normal growth and development.
	A wise decision is based upon factual information and mature judgment.		Alleged rewards of smoking include improvement of the self-image, feeling of independence, release of tension due to; insecurity, frustration, restless, and oral gratification and the dulling of sensitivity. Risks of smoking include: Physiological habituation and possible acquisition of coronary heart disease, cancer emphysema, bronchitis, and other diseases. Immediate effects of smoking are "tobacco breath", staining fingers and teeth, and cough due to dryness of mouth and throat.

REFERENCE	CONTENT	LEARNING EXPERIENCE	INFORMATION
			Smoking also increases the possibility of fire and incidental damages to clothing and furnishing.

SUPPLEMENTARY INFORMATION FOR TEACHERS

It is not clear exactly how tobacco was introduced in Europe. However, it was used mainly as a medicine until 1600. This "medical discovery" was first hailed in Portugal, where tobacco was recommended in poultices, unguents, and as cathartics and dentifrices. Even in the latter 17th century, it was used to ward off plague and to cure cancer.

The smoking habit was greatly encouraged in England when Sir Francis Drake returned to England in 1586 with quantities of tobacco captured in the West Indies. He returned with leaves, seed, and clay pipes. From that day on, pipes have been widely used in England and other parts of Europe.

Sir Walter Raleigh was one of the first to take up the smoking habit and he was largely responsible for making smoking "respectable" in Elizabethan court circles. The smoking habit disgusted many Englishmen, but the young men of London soon learned the habit, and history tells us, practiced the revolting practices aptly called the Gulpe and the Retention.

Snuff is a powdered form of tobacco which is chewed, rubbed on the gums and teeth, and inhaled through the nose. Snuff taking was introduced in Europe from America during the 16th century and was popular until the end of the 1800's.

The major mode of tobacco consumption during the Colonial Period was pipe smoking.

The Jamestown cultivations were developed by John Rolfe, who grew tobacco from seed sent to him from either South America or the West Indies.

England believed that tobacco was harmful and prevented the colonists from growing food crops. The colonists, however, maintained that tobacco was their major staple and a medium of exchange.

During the Revolutionary Period the cigar was introduced to the colonies by General Israel Putnam.

Cigarette smoking was relatively rare in the U.S. until the close of the Civil War.

The chief method of tobacco consumption during the first half of the 19th century was chewing. It became a prideful departure from the accepted European patterns of consumption. Tobacco chewing became a distinctly American custom. It had originally been a habit of seamen and common workers.

In all American wars, three factors appear to have increased the extent of tobacco use:

1) removal of family restrictions
2) indulgence in tobacco as an escape from the rigors of military life
3) the phenomena of "imitated behavior" when people are grouped together

The increased use of cigarettes led to the imposition of a cigarette tax in 1864.

During this period, 14 states banned the sale of tobacco, largely through the efforts of temperance groups.

By 1930, all prohibitory regulations had been repealed. This led to the doubling of cigarette sales by 1930.

The majority of tobacco reformers believed that tobacco use was physically and mentally harmful and that it undermined one's moral life.

SMOKING AND HEALTH

Unit for Grades 7-8-9

OVERVIEW

The preadolescent and early adolescent represent the largest and most promising group of prospective tobacco users in the United States. Due to this fact it is imperative that junior high school pupils be familiar with various advertising appeals and approaches which have proven effective in inducing young nonsmokers to take up the dangerous smoking habit.

These pupils are at a developmental level characterized by an intense desire to be looked upon as adults. Their attempts to emulate what is judged to be mature behavior may result in habitual smoking which one day may lead to regret.

An understanding of habit formation and specifically the habit of tobacco use is important in enabling the pupil to better understand the nature of habits, and the persistence of habitual behavior.

A preoccupation with the body and its functions is characteristic of many individuals in this age group. This offers an excellent opportunity for the school to develop in its pupils a basic understanding of the physiological effects of smoking. This information will reinforce much of the more basic work included in the intermediate grades and should result in a realistic and informative view of the hazards of smoking, and hopefully will lead to the formation of those attitudes characteristic of the nonsmoker.

GLOSSARY

1.	Addict	one who devotes himself to habit
2.	Alveoli	tiny air sacs at the end of each bronchiole in the lungs
3.	Bronchi	the two principal branches of the windpipe or trachea
4.	Bronchiole	one of the smallest divisions of the bronchial tubes
5.	Bronchitis	irritation or inflamation of lining of the bronchial tubes.
6.	Buerger's Disease	a disorder in which blood vessels of arms and legs are irritated and inflamed causing poor circulation. Smoking appears to cause inflamation of the vessels.
7.	Cancer	any malignant tumor
8.	Capillary	smallest of the blood vessels
9.	Carbon Dioxide	gaseous waste material given off by the body
10.	Carcinogen	a substance or agent causing development of cancer
11.	Carcinoma	a tumor which is malignant
12.	Chronic	continuing for a long time
13.	Cilia	tiny hair-like projections found in various parts of the body that help propel fluids.
14.	Emphysema	a disease of the respiratory system; characterized by over-inflation of alveoli, or air sacs, and some destruction of walls of air sacs.
15.	Exhale	to breathe out
16.	Filter	a porous material used to remove impurities; used in cigarettes to help remove tars.
17.	Inhale	to breathe in
18.	Mucus	a sticky liquid secreted by mucous glands
19.	Nicotine	a poison found in the leaves of tobacco plant and is responsible for some of the effects of tobacco
20.	Tars	thick brownish-black substances, consists of a mixture of hydrocarbons and their derivatives.

SMOKING

JUNIOR HIGH SCHOOL (grades 7, 8, and 9)

I. The Advertisement and Promotion of Tobacco

II. Developing the Smoking Habit

III. Physiological Effects of Tobacco

OUTCOMES

The Pupil in Grades 7, 8, and 9 should:

___recognize the relationship between widescale advertising and the consumption of tobacco in the United States.

___be familiar with the advertising techniques used to encourage smoking and increase the sales of tobacco.

___be aware of the nature of habit formation and clearly understand the development of the smoking habit.

___have a clear knowledge of the physiological effects of smoking.

REFERENCE	MAJOR UNDERSTANDINGS AND FUNDAMENTAL CONCEPTS	SUGGESTED TEACHING AIDS AND LEARNING ACTIVITIES	SUPPLEMENTARY INFORMATION FOR TEACHERS
I. The Advertisement and Promotion of Tobacco		Tape record portions of television and/or radio cigarette commercials. When these are placed on tape and listened to without benefit of visual stimuli, their absurdity is quite apparent.	
A. Early opposition 1. 17th Century England	Opposition to the use of tobacco developed soon after its introduction in Europe.		Since its introduction in Europe, tobacco met with opposition. The first attempts to discourage the expanding indulgence in tobacco were largely irrational.
a. Temperance and religious leaders	Opponents to tobacco use based their views on temporal and ecclesiastical precepts.		The first document of any importance attacking tobacco use was written by King James I of England and published in 1604, entitled "A Counterblaste to Tobacco." This treatise ridiculed the many medicinal virtues attributed to tobacco and came to the conclusion that "smoking is a custome lothsome to the Eye, hateful to the Nose, harmful to the Braine, dangerous to the Lungs, and, in the black stinking Fume thereof, nearest resembling the horrible Stygian Smoke of the Pit that is bottomless."
b. British physicians	In spite of efforts to discourage the use of tobacco during the 17th century, smoking has persisted through the centuries.		Following publication of this document, several members of the British Royal College of Physicians disagreed with the King. He threatened to send all doctors who smoked to the "land of the Red Indians," where they could perfect their habit.

REFERENCE	MAJOR UNDERSTANDINGS AND FUNDAMENTAL CONCEPTS	SUGGESTED TEACHING AIDS AND LEARNING ACTIVITIES	SUPPLEMENTARY INFORMATION FOR TEACHERS
			Several popes during this century forbade the use of tobacco in church and threatened excommunication for those who failed to comply.
2. Measures in other countries			Smoking was believed to be in conflict with the Koran. Moslems caught smoking were dragged through the streets of Constantinople. Many Moslems were executed for smoking.
B. Early Appeals and Techniques	Even in its early stages, our tobacco industry was a highly competitive enterprise which utilized advertising techniques.		
1. Advertising began to appear in the middle 1800's			
a. Competition was keen		In what ways does current tobacco advertising reflect the keen competition in today's business world?	
b. Sales success depended on advertising skill	Money invested in advertising pays huge dividends in increased tobacco sales.		Even in the middle 1800's tobacco manufacturers were giving their products distinctive names, such as - Rock Candy, Cherry Ripe, Winesap, and Bouquet.

REFERENCE	MAJOR UNDERSTANDINGS AND FUNDAMENTAL CONCEPTS	SUGGESTED TEACHING AIDS AND LEARNING ACTIVITIES	SUPPLEMENTARY INFORMATION FOR TEACHERS
c. Limited newspaper advertising			Inconspicuous newspaper ads were used by tobacco retailers. Frequently large-scale tobacco transactions were given headline coverage in newspapers.
d. Evidence of advertising appeals to specific consumers			John Green, originator of Bull Durham, chose the trademark of the bull to appeal to the masculinity of males.
2. Increased advertising efforts in late 1800's	Tobacco testimonials for the promotion of sales were used successfully in the early 1800's and continue to be used today.	Perhaps a local antique dealer has early ornate cigar cans or boxes, and posters which could be used to illustrate early advertising methods.	In advertising the "bull" to the public, testimonials of approval from prominent people, including clergy and senators were spread across the nation.
a. Ads appeared on sides of barns and in some magazines of the day b. The girl motif began to appear, especially on cigar boxes.			In the early 1800's one tobacco firm reported spending $100,000 for advertising in the country newspapers and approximately $50,000 in metropolitan newspapers. They also reported distribution of premiums valued at approximately $60,000.

REFERENCE	MAJOR UNDERSTANDINGS AND FUNDAMENTAL CONCEPTS	SUGGESTED TEACHING AIDS AND LEARNING ACTIVITIES	SUPPLEMENTARY INFORMATION FOR TEACHERS
c. "Trade wars" between leading manufacturers stimulated more intense advertising	Competitive efforts to promote higher tobacco sales lead to more intensive advertising campaigns.	Identify advertising efforts which will illustrate the competitive nature of our present tobacco industry.	Current tobacco commercials clearly indicate how competitive the industry is. Some companies claim that their product provides "full roasted tobacco flavor" rather than the flavored tobacco used in other cigarettes. In the late 19th century, tobacco salesmen and retailers awarded premiums, especially for cigar sales. These buying incentives included pictures of actresses prizefighters, cigar cutters, matches, and for large orders, mantel clocks.
C. Advertising techniques of the 20th century			
1. Health appeals made	Before the harmful effects of tobacco smoking were known, people were led to believe that smoking was beneficial to one's health.	Locate issues of magazines published in the late 1950's and show your students athletic testimonials. At one time in the middle 1950's Mickey Mantle appeared in ads of a particular brand. Later in his career he appeared in ads promoting a tablet to help people stop smoking.	Early ads implied something harmless about the exotic blend of Turkish and domestic tobaccos. During the 1930's, advertisers began to use such mottos as - "Not a cough in a carload," "The throat-tested cigarette," "For digestion's sake, smoke _______." The identification of doctors with smoking began in 1936 when one company claimed that "More doctors smoke ________ than any other cigarette." Many church groups and state senators attempted to expose the industry's appeal to convert youth and women to the tobacco habit.

REFERENCE	MAJOR UNDERSTANDINGS AND FUNDAMENTAL CONCEPTS	SUGGESTED TEACHING AIDS AND LEARNING ACTIVITIES	SUPPLEMENTARY INFORMATION FOR TEACHERS
2. The appearance of the "athletic appeal"		Organize an assembly program for your school. Various resource people may be invited to speak to your students.	Battles for sales leadership near 1900 utilized testimonials from European opera stars who claimed that smoking a particular cigarette helped them to "save their voices." Even in this period athletes stated that a particular brand of cigarettes helped them to "stay in shape."
3. Attemps to expose the "unethical" educational campaigns	Nearly half a century ago, objections were raised to the manner by which spurious tobacco advertising was being used to encourage smoking.		
4. Use of subtle educational campaigns		Write to leading tobacco companies requesting information on the growing and processing of tobacco. The teacher should screen this material and then demonstrate to the class how the manufacturer is attempting to promote his product via this educational material.	The tobacco industry attempted to institute National Tobacco Week, a campaign to describe the important role of tobacco in American life.
5. Increase in advertising	Efforts by cigarette manufacturers to develop unique and appealing packaging techniques have been an important factor in promoting tobacco products.	Perhaps your class can determine whether or not tobacco companies lobby in Congress. To what extent do these groups influence legislation? What kinds of legislation would they be interested in?	During 1931, tobacco companies in America spent an estimated $75,000,000 on advertising. Cellophane was first used in packaging cigarettes and one company offered a $50,000 prize to the person who, in one statement, could describe the advantages of such a wrapper. (This contest was won by a Boston milk man.)

REFERENCE	MAJOR UNDERSTANDINGS AND FUNDAMENTAL CONCEPTS	SUGGESTED TEACHING AIDS AND LEARNING ACTIVITIES	SUPPLEMENTARY INFORMATION FOR TEACHERS
	As new communications media were developed, they were utilized by the tobacco industry for advertising purposes.		The most distinctive feature of advertising in the 1930's was the increased use of radio as an advertising medium.
6. Increased cost of cigarettes		Determine the increase in costs of leading brands of cigarettes for the past 20 years. Plot these changes on a line graph and compare with other commodities.	In 1930, leading brands were selling for 10¢ a pack. By the end of the decade, prices were 15¢ per pack. Increase to offset advertising costs.
D. Research Reports of early 1950's which affected cigarette advertising	Beginning in the early 1950's a series of scientific investigations indicated that smoking is detrimental to one's health.		
1. Report of the American Cancer Society (1953)		Contact representative of the local chapter of the American Cancer Society to speak to your class about the findings of research. It would be appropriate to have this representative also mention current programs relative to smoking and lung cancer being conducted by the ACS.	
a. Indicated possible relationship between smoking and lung cancer			
1) Cigarette sales dropped after publication			Following publication of the ACS report in 1953, cigarette sales fell off. This was only a temporary reaction, for by 1955, sales once again soared.

REFERENCE	MAJOR UNDERSTANDINGS AND FUNDAMENTAL CONCEPTS	SUGGESTED TEACHING AIDS AND LEARNING ACTIVITIES	SUPPLEMENTARY INFORMATION FOR TEACHERS
2) Reactions to the temporary decline in sales			
-Increased advertising	Intensive advertising campaigns may convince the public that cigarette smoking is safe.	Students suggest reasons why the public failed to heed the ACS report linking smoking and lung cancer. Perhaps this phenomenon can be compared to our awareness of other health hazards and our reluctance to act in a manner consistent with our knowledge.	Advertising expenditures increased 134% between 1954 and 1960. Sales rose 27% in this period.
-Development of new cigarettes to meet demands of a wary public			
-Appearance of new brands on the market		See attached sheet for details of constructing a "smoking machine" which is useful in demonstrating the ineffectiveness of various filters.	By the middle 1950's, cigarette advertising was promoting filters which were said to "remove the harmful ingredients from tobacco."
		Prepare a nicotine insecticide by soaking the filters from the "smoking machine" in water. Determine the effectiveness of this insecticide.	Special promotional costs involved in launching a new brand of cigarettes is estimated to be nearly $10,000,000.

REFERENCE	MAJOR UNDERSTANDINGS AND FUNDAMENTAL CONCEPTS	SUGGESTED TEACHING AIDS AND LEARNING ACTIVITIES	SUPPLEMENTARY INFORMATION FOR TEACHERS
2. Reports from Great Britain (1962) a. Reported cigarette smoking to be a possible cause of lung cancer. b. Issued report - "Smoking and Health"		Write to the U.S.P.H.S. requesting information concerning the incidence of lung cancer in other countries. Perhaps your class would enjoy finding out more about United States policy concerning the sales and promotion of American-made cigarettes in other countries.	In Britain, the Royal College of Physicians and Surgeons, and the medical journals The Lancet and The British Medical Journal issued this report. The report is the result of the work of a committee appointed in 1959 to study smoking and atmospheric pollution in relation to lung cancer and health.
3. Danish activities (1962) a. Report affirmed the relationship between smoking and lung cancer.	Many countries have recognized the relationship between lung cancer and smoking, and some have taken measures to control the use of cigarettes.	Discuss the question - "Should a government have the power to control cigarette smoking?"	In Denmark, the government was urged to restrict or abolish al cigarette advertising. In addition, they were urged to prohibit smoking by those under age 16.

THE SMOKING MACHINE

This device can be easily constructed by a small group of students, providing they have had previous experience with glass bending and they know the proper manner of inserting glass tubing in rubber stoppers. Inexperienced students, with teacher supervision, would have little difficulty with this project.

The smoking machine operates by pumping air from the area above the surface of the alcohol. The decreased air pressure created causes air to enter through the only inlet available, the lighted filter cigarette on the left.

The result is that the cigarette smoke is drawn through the two bottles and eventually through the pump.

Effects to be noted:

1. Enough contaminants from the tobacco have entered bottle #1 to markedly discolor the water.
2. The alcohol in bottle #2 will become discolored as a result of the tars and other contaminants that have passed through the cigarette filter.
3. The cigarette filters placed in the tubing between bottle #2 and the pump become discolored from contaminants which have managed to pass through (a) the cigarette filter, (b) the water in bottle #1, (c) the alcohol in bottle #2.
4. Close examination of the hand pump will reveal the presence of tars and other contaminants.

Conclusions:

Cigarette filters are not effective in filtering tars and other contaminants in tobacco smoke.

This demonstration may be modified in many ways. Students may be interested in using different brands of cigarettes and various types of filters.

The teacher could substitute water for the alcohol in bottle #2 and place a guppy or tadpole in the water. The effects of tobacco contaminants on this animal's life might be interesting.

REFERENCE	MAJOR UNDERSTANDINGS AND FUNDAMENTAL CONCEPTS	SUGGESTED TEACHING AIDS AND LEARNING ACTIVITIES	SUPPLEMENTARY INFORMATION FOR TEACHERS
b. Danish government urged to take action			
4. Report of the Surgeon General's Sub-committee (January 11, 1964)		Have a student committee determine your school's library holdings relative to smoking and health. Arrange with the school librarian to order additional materials which are suitable for secondary students.	
a. Cigarette sales dipped immediately after publication of the Report			The U.S. Department of Agriculture reported that U.S. smokers consumed about 511 billion cigarettes in 1964, compared to 524 billion in 1963. Most of the decline in sales came immediately after the Surgeon General's Report was issued. In 1966, it is estimated that cigarette consumption in the United States will exceed a rate of 5,000 cigarettes for each person over 16.
b. By the end of 1964, sales returned to previous levels			
E. Impact of research findings on advertising and promotion	The fear of endangering their health caused many cigarette smokers to demand a "safer" cigarette.		In the past 30 years, the number of cigarettes smoked (per capita) has increased about 950%.

REFERENCE	MAJOR UNDERSTANDINGS AND FUNDAMENTAL CONCEPTS	SUGGESTED TEACHING AIDS AND LEARNING ACTIVITIES	SUPPLEMENTARY INFORMATION FOR TEACHERS
1. Development of the "tar derby"		Have your class organize, develop, and maintain a "Tobacco Information Center" in a conspicuous location in your community or school. Handout leaflets available from the A.C.S. and other sources may be distributed. Perhaps regular showings of a current film on smoking hazards could be arranged.	
a. Attempt by manufacturers to convince the public that their cigarette is lowest in tars	Efforts to advertise "safe" cigarettes were evident immediately following the Surgeon General's report.		It is important to emphasize that no special cigarette filter has yet been developed which will adequately remove harmful tars from tobacco and not greatly alter the flavor of the tobacco.
b. Involved much misrepresentation of cigarette filter efficiency		Mount various cigarettes on oak tag (not exposing the brand names) to illustrate the various features of cigarettes - charcoal filter, water filter, recessed tips, king-sized, etc. Emphasize that none of these successfully removes tobacco carcinogens.	
2. Fragmented market developed			
a. An attempt to appeal to many people	No cigarette filter has been developed which can protect the smoker from the cancer-producing agents of tobacco and not greatly change the taste of the tobacco.		The filter-tip market appealed to those who were concerned about the harmful effects of cigarette smoking but who continued to smoke. In 1964, the paratively new filter-tip market made up approximately 61% of the total cigarette market.
b. Filter-tip appeal			

REFERENCE	MAJOR UNDERSTANDINGS AND FUNDAMENTAL CONCEPTS	SUGGESTED TEACHING AIDS AND LEARNING ACTIVITIES	SUPPLEMENTARY INFORMATION FOR TEACHERS
		Impromptu activity - Ask students to jot down, from memory, what they remember about any of the current cigarette ads. Analyze the findings and relate them to the advertising appeals being made.	
c. Nonfilter, king-size cigarettes	The filter-tip cigarette is promoted in this country, not to safeguard the health of the smoker, but rather to increase tobacco sales.		The claim was made that the filterless, king-sized cigarettes acted as a natural filter as the smoke is required to pass through more tobacco. This assumption is erroneous, because smokers tend to smoke more of the longer cigarette.
d. Regular cigarettes constitute the final segment of the market			The appeal of the regular cigarette is to those who enjoy "old-fashioned undoctored smoking, with full tobacco flavor."
F. Changes in advertising			
1. Attempts to encourage smokers to identify with a particular brand	Health claims disappeared from cigarette advertising shortly after publication of the facts about smoking and lung cancer.	Organize a student program to be presented to the P.T.A., which illustrates the various promotional techniques of tobacco companies.	If smokers would identify with a particular brand, this would tend to stabilize the market.
2. Nearly all health claims have been dropped from advertising			There has been no attempt in advertising to refute the scientific evidence linking cigarette smoking and lung cancer.
a. Medical atmosphere is missing from commercials			

REFERENCE	MAJOR UNDERSTANDINGS AND FUNDAMENTAL CONCEPTS	SUGGESTED TEACHING AIDS AND LEARNING ACTIVITIES	SUPPLEMENTARY INFORMATION FOR TEACHERS
b. Current emphasis is on smoking for pleasure		Tape record cigarette television and radio commercials. Have students identify the appeal being made by the advertiser.	The desire of the individual to be somewhat individualistic, masculine, or feminine is apparent in present-day advertising.
3. Increased expenditures for advertising and promotion.	It is apparent that the primary interest of the tobacco industry in the United States is to make money and not to safeguard the health of our people.		In 1961 approximately 177 million dollars was spent for advertising tobacco products in the U.S. Of this total expenditure, 134 million was spent for television and radio commercials.
a. Use of "gimmicks" to introduce new brands to an already crowded market		Students develop exhibits on smoking and health for school health and/or science fair.	
b. New packaging techniques			New packaging techniques include the flip-top box, the slide-top box, the use of new plastic and foil outer wrappings.
4. Increased emphasis on appeals to our teen-age population	Encouraging teen-age smoking has become a primary objective of cigarette advertisers.	Student committees to suggest ideas for "Smoking Discouragement" program for their school and community.	Advertising firms realize that teen-agers constitute the largest "untapped," eligible age group in which the industry may expect to increase sales.
a. Teen-agers are a prime target.			
b. During the period 1960-1965, the teen-age smoking population increased more than 8%	A lack of understanding of the scientific findings, and the tendency to be unconcerned with the future has resulted in an increased number of teen-age smokers.	Students might prepare a script for a play, dramatizing how a young teen-ager might be encouraged to begin smoking.	It is evident to the tobacco industry that many young people have not been alerted to the health hazards of smoking. Others have not shown much concern over the recent research findings. One Oregon student commented - "Nobody young worries much about some disease

REFERENCE	MAJOR UNDERSTANDINGS AND FUNDAMENTAL CONCEPTS	SUGGESTED TEACHING AIDS AND LEARNING ACTIVITIES	SUPPLEMENTARY INFORMATION FOR TEACHERS
			they might get forty or fifty years from now." This attitude points up the need to make the findings about smoking and health of immediate concern to our young people.
G. The teen-ager as an advertising target		Have students try to determine how tobacco advertising is directed at the young. Ask them to suggest why this appeal is made. This could result in a lively and most worthwhile discussion.	It has been the American tradition in advertising to make the appeal to the young.
1. Ads appeal by means of allusions to - a. Athletic prowess b. Popularity c. Datability or sociability	Current promotional approaches mislead our young people into believing that by smoking one may become a more dynamic, likeable, and effective person.	Use an opaque projector and magazine ads to illustrate the propaganda tricks such as glittering generalities, testimonials, the plain-folks appeal, the bandwagon appeal, etc.	Teaching young people about smoking should be conducted with these advertising appeals in mind. It has been demonstrated that success in antismoking campaigns will usually not result by resorting to fear or to moralizations. Perhaps educators can discover some value in the educational techniques used so successfully in the industry.
d. Sexual allure		Arrange for your students to make a survey of unsupervised cigarette vending machines in your community.	
2. Common promotional methods			

REFERENCE	MAJOR UNDERSTANDINGS AND FUNDAMENTAL CONCEPTS	SUGGESTED TEACHING AIDS AND LEARNING ACTIVITIES	SUPPLEMENTARY INFORMATION FOR TEACHERS
a. Use of broad, attractive statements which can neither be defined nor substantiated	The vagueness and ambiguity of many advertising claims are easily recognized by a critical person.	Ask students to scan magazines, newspapers and other media for cigarette ads that include statements or inferences by pseudo-experts attesting to the quality of the product. Have students bring the ads to class and report on their findings. Mount the better examples on construction paper and display on bulletin board.	The use of nonrational symbols has been used to great advantage by the cigarette industry. For example, to create a cigarette with a strong masculine appeal advertisers might - 1) show only men in the ad 2) use only virile-type male models, i.e., rugged construction worker, rancher.
b. Citing irrelevant authorities to testify about smoking and cigarettes c. Making appeals that appear to be straight from the shoulder and very friendly	Basic principles of psychology are used by cigarette advertisers to influence the smoking habits of people.	Have students paraphrase current advertising slogans: Ex. - "I'd rather fight than switch." "I'd rather fight than smoke." Ex. - "The thinking man's cigarette." "The cigarette's stinking man."	(3) Choose those models who represent successful, forceful personalities to inspire teen-age emulation of a supposed desirable figure (4) Reinforce the virility of the model and add a devil-may-care or swashbuckling symbol such as a tattoo, etc
d. Use of the bandwagon appeal		Using the tapes made previously, have students identify the bandwagon appeal and other appeals used in the commercials.	The bandwagon appeal involves the notion that everybody has accepted the position taken in the ad.
e. Supplying incomplete information so as to obscure the facts			

REFERENCE	MAJOR UNDERSTANDINGS AND FUNDAMENTAL CONCEPTS	SUGGESTED TEACHING AIDS AND LEARNING ACTIVITIES	SUPPLEMENTARY INFORMATION FOR TEACHERS
H. Controls on tobacco advertising since 1955			
1. In 1955 the Federal Trade Commission issued a guide for advertising	The U.S. government has urged tobacco manufacturers to refrain from making advertising claims that cannot be substantiated by scientific facts.	Students may wish to prepare cartoon posters designed to discourage smoking.	The FTC statement banned all filter claims that could not be supported by scientific evidence. The manufacturers simply made their advertising appeals in other ways.
2. In 1960 the FTC succeeded in persuading the tobacco industry to discontinue the "tar derby"			Misleading ads for filter-tips have largely disappeared from magazines. Claims about tars and nicotine have all but disappeared from cigarette advertisements.
3. Cigarette ads were banned or closely controlled in other countries	Some governments have taken deliberate steps to protect their citizens from misleading cigarette advertising and the health hazards involved.	Attempt to determine how advertising bans in other countries have affected cigarette sales. Correspond with your area legislators to learn of the laws and regulations regarding the sale and purchase of tobacco products.	In Italy, all tobacco advertising was banned beginning May 12, 1962. It is interesting to note that the government controls the industry in Italy and therefore there was little political opposition to the ban. In Finland, television advertising of cigarettes ended in July 1962. The British Labor Government announced that it planned to ban all cigarette advertising on television and was contemplating a similar ban on newspaper and poster ads.

REFERENCE	MAJOR UNDERSTANDINGS AND FUNDAMENTAL CONCEPTS	SUGGESTED TEACHING AIDS AND LEARNING ACTIVITIES	SUPPLEMENTARY INFORMATION FOR TEACHERS
4. Additional changes in the United States			
a. Health hazard warnings on all packages of cigarettes	The evidence linking lung cancer and other respiratory illnesses with smoking has resulted in Congressional action to warn all smokers of the hazards of smoking.	Using a hand magnifying lens, examine the warning on several different cigarette packages. Note any difference in the appearance of the letter "m" on the word "may." Have students comment on their findings.	The first federal legislation requiring cigarette manufacturers to warn the public of the risks involved in using cigarettes was passed by congress on July 14, 1965 and signed by President Johnson on July 27, 1965. The bill provided that after January 1, 1966, all cigarette packages must bear the statement "Caution: cigarette smoking may be hazardous to your health." Manufacturers who do not comply will be fined $10,000 for each offense.
b. Appearance of effective anti-smoking campaigns c. Educational campaigns in schools and communities	Individuals, groups, and governmental agencies have begun educational campaigns to alert the American public to the health hazards of smoking.	Have students suggest how an effective antismoking campaign might be conducted in your school. If the students are sufficiently motivated, this would present an excellent opportunity to involve the entire school in your work.	Professional athletes, the American Cancer Society, health departments, state education departments, and other official and voluntary groups have been active in these programs.
d. New York State Law		Students may recognize the ease with which an underage individual may purchase cigarettes in your community. Perhaps they can suggest ways that this practice might be discouraged.	Sect. 484 - Subdivision 5 of the Penal Law of N.Y.S. states - "A person who sells or pays for or furnishes any cigar, cigarette or tobacco in any of its forms to any child actually or apparently under the age of 18 is guilty of a misdemeanor."

EFERENCE	MAJOR UNDERSTANDINGS AND FUNDAMENTAL CONCEPTS	SUGGESTED TEACHING AIDS AND LEARNING ACTIVITIES	SUPPLEMENTARY INFORMATION FOR TEACHERS
e. Legislative action in other states.	Concern over the relationship between smoking and health has resulted in considerable legislative activity in many states and at the Federal level.	Perhaps your class can draw conclusions about the "politics of tobacco" by reviewing legislative proposals from various states.	Legislation has been sought in Nebraska, New York, New Mexico, California, Michigan, Oregon, Florida, and other states, proposing public health measures to control cigarette consumption.
f. Legislative attempts on the federal level		Perhaps a local congressman or representative is available to meet with your class to discuss various bills concerning smoking and the tobacco industry. It might be interesting to have him indicate his opinion of specific proposals.	Federal proposals have called for regulations providing for the labeling of cigarettes as to their tar and nicotine content and their hazards to health. Some of these bills also called for research on current smoking habits, ways of reducing smoking developing smoking withdrawal clinics, and public educational campaigns. These proposals are frequently vigorously opposed by those states whose economies depend heavily on the sale of tobacco.
g. Voluntary controls		Display the series of "I Don't Smoke" posters available from the American Cancer Society as examples of the efforts (voluntary) of individuals who are dedicated to the idea that smoking is detrimental to one's health.	The New Yorker, Reader's Digest, and Saturday Review have decided to discontinue cigarette ads in their publications until such time as cigarettes are proven safe. The tobacco industry has agreed to suspend all advertising in college newspapers.

REFERENCE	MAJOR UNDERSTANDINGS AND FUNDAMENTAL CONCEPTS	SUGGESTED TEACHING AIDS AND LEARNING ACTIVITIES	SUPPLEMENTARY INFORMATION FOR TEACHERS
II. Developing the Smoking Habit			
A. Habit formation			
1. The nature of habits			A habit is a learned behavior or response so well established that it has become repetitive and more or less automatic.
2. Reasons why we form habits	Habits, both desirable and undesirable, are an important part of the individuals behavior repertoire.	Have students suggest examples of habits they practice which have been developed in each of the following ways: 1) by teachings from others or through their own experiences 2) through attempts to serve their own purposes 3) to provide an easy, tension-relieving method of accomplishing something in a satisfying way This activity may be conducted via a general discussion or, to encourage more active student participation, on a buzz group or small group basis.	
a. Taught by others or learned through our own experience			The development of habits of personal hygiene are generally taught by parents and reinforced in the school.
b. Acquired to serve our own purposes			Through his own experiences in school a student may develop study habits which he believes are necessary if he is to achieve at a particular level.
c. Provide an easy tension-relieving way of doing things that satisfy us			An individual who has difficulties in interpersonal relationships may develop habits of attention-getting behavior so as to provide himself a relatively easy, yet satisfying way of being noticed by others.

REFERENCE	MAJOR UNDERSTANDINGS AND FUNDAMENTAL CONCEPTS	SUGGESTED TEACHING AIDS AND LEARNING ACTIVITIES	SUPPLEMENTARY INFORMATION FOR TEACHERS
		Have students prepare a paper which discusses what they consider to be their most desirable and their most undesirable habit in each of the following areas: (1) eating and drinking (2) sleeping (3) interpersonal relationships (4) school work (5) cooperation with parents and other members of the family.	
3. Habits: a help or hindrance?			
a. Desirable habits	The development of desirable habits contributes to human effectiveness and efficiency.	Prepare a classroom bulletin board with pictures illustrating people exhibiting behavior which, if habitual, would result in a saving of considerable time and energy.	The work "desirable" is relative, but it is used to indicate those behaviors which are generally accepted as "good" by a social majority.
1) Make desirable behavior automatic 2) Conserve time and energy 3) Are personally satisfying		From the papers prepared by students outside of class, summarize the undesirable and desirable habits mentioned by the students. Have the group suggest what steps would be necessary in order for an individual to overcome certain of these habits.	When undesirable behavior is rejected by those in authority, and they demand a different behavior from us, we often experience frustration. If habitual behavior conflicts with the expectations of our friends and families, our relationships with these people may be strained.

REFERENCE	MAJOR UNDERSTANDINGS AND FUNDAMENTAL CONCEPTS	SUGGESTED TEACHING AIDS AND LEARNING ACTIVITIES	SUPPLEMENTARY INFORMATION FOR TEACHERS
b. Undesirable habits	Undesirable habits result in inefficiency and a decrease in personal effectiveness.	Have each student prepare a script for a puppet show to demonstrate how habits may be our friends or enemies. An excellent opportunity to emphasize the undesirability of developing the smoking habit.	The reason why athletic coaches emphasize the importance of performing skills correctly during practice sessions is to avoid the formation of undesirable habits which result in sloppy play under competitive conditions.
1) Cause unconstructive behaviors to become automatic			
2) May result in wasted time and effort			Perhaps the most pertinent example of wasted time and energy through undesirable habitual behavior is the student who submits his written work in a sloppy, careless manner. If his teacher rejects the work and demands a more thoughtful job, more student time and effort is required. This could be avoided by preparing the work properly the first time.
3) Are a cause of personal frustration		Using two chalkboards, have students suggest examples of good and bad habits that they believe are essential for effective adulthood. There may be a conflict of opinions. If so, this will provide an excellent opportunity to discuss individual differences.	
4) Affect interpersonal relationships			

REFERENCE	MAJOR UNDERSTANDINGS AND FUNDAMENTAL CONCEPTS	SUGGESTED TEACHING AIDS AND LEARNING ACTIVITIES	SUPPLEMENTARY INFORMATION FOR TEACHERS
4. Habit development	Habits are developed because of personal reasons or because parents or other individuals consciously or unconsciously teach them.	Ask students to explain the reasons why they developed a particular habit. Introduce the term "motivation" and indicate that there is a reason for all human behavior.	
a. Motivating purpose			The example of learning to drive a car efficiently may be used to illustrate the significance of each phase in the development of a habit.
1) Personal reason			
2) Demands of others			
b. Value substitution	The development of desirable habits often involves the substitution of one value for another.		The individual who decides that completing homework assignments at a certain time rather than watching a television program has substituted one value for another.
c. Practice of the behavior d. Permit no exceptions e. Behavior becomes a habit	A habit will develop if we practice a behavior and allow no exceptions to this pattern.	Use socio-drama to demonstrate how a junior high school student is motivated to develop a habit his parents would like him to develop. Students will have little difficulty thinking of situations that might be dramatized and the tendency parents have to demand the substitution of one value for another, constant practice, etc.	Many have learned that washing one's hands before eating is desirable behavior. When the behavior is practiced sufficiently, it becomes part of the individual, is automatic, and is in no way unpleasant or inconvenient.

REFERENCE	MAJOR UNDERSTANDINGS AND FUNDAMENTAL CONCEPTS	SUGGESTED TEACHING AIDS AND LEARNING ACTIVITIES	SUPPLEMENTARY INFORMATION FOR TEACHERS
B. The smoking habit			
1. Why do people start smoking? a. Curiosity	People start smoking, not because of a physical need or desire, but rather to satisfy a psychological need.		
b. Sociability and peer pressure	Although there is no single reason why individuals start smoking, the desire to be favorably looked upon by others is an important factor in starting to smoke.	Have students suggest behaviors which develop as a result of one's desire to be accepted by peers.	Few children smoke before the age of 12 years. Researchers have indicated that by the 12th grade between 40% and 55% of the students are smokers.
c. Imitative behavior			The development of the smoking habit involves a wide range of motivations and there is no single reason why most people smoke.
d. Desire for adult status		Have students suggest different types of jobs which prohibit smoking. Compile a list and discuss why smoking is banned in each of the occupations.	
2. Why do many people not smoke?	Most adult women and approximately one-third of the male adults do not smoke.		Approximately 25-32% of adult men and 60-68% of adult women do not smoke.
a. Awareness of health hazard	There are a number of reasons why many people have made the decision not to smoke.	Review the basic findings of the Report to the Surgeon General on Smoking and Health.	
b. Religion			
c. Expense of the habit		Have your class calculate the annual expense of smoking one pack of cigarettes daily. How could this amount of money be better used? How	Americans spend approximately eight billion dollars a year on tobacco products.

REFERENCE	MAJOR UNDERSTANDINGS AND FUNDAMENTAL CONCEPTS	SUGGESTED TEACHING AIDS AND LEARNING ACTIVITIES	SUPPLEMENTARY INFORMATION FOR TEACHERS
d. lack of desire		much interest would this money accumulate in a savings account at a rate of 4 1/4%? 5%? 6%?	
e. Offensiveness of the habit			
f. Desire to set a positive example for children		Discuss the etiquette of smoking in another person's presence, in someone's home, in another person's automobile. . .	Investigations have all shown a close relationship between parental smoking patterns and the smoking habits of their children. Smoking is harmful mainly to the individual and poses much less of a threat to society than does the illegal use of addicting substances. Another essential difference between tobacco and other drugs is that tobacco may be legally used for social purposes in the U.S. while there is no legal social use of the addicting drugs.
C. Continuation of the smoking habit			Once the habit of tobacco use has been developed, it is most difficult to break. During wartime when cigarettes were scarce, people stood in line for hours just to buy one or two packs. In war-stricken countries people often prefer to go without food staples in order to have cigarette money.
1. Habituation to tobacco is not easily broken	The fact that the majority of smokers continue to smoke, demonstrates the extreme difficulty one has in breaking the habit.	By means of a questionnaire, determine the extent to which the smoking parents of your students (who would like to stop smoking) have actually succeeded in discontinuing the smoking habit. The various reasons for failures to stop smoking may be useful and interesting to your class.	

REFERENCE	MAJOR UNDERSTANDINGS AND FUNDAMENTAL CONCEPTS	SUGGESTED TEACHING AIDS AND LEARNING ACTIVITIES	SUPPLEMENTARY INFORMATION FOR TEACHERS
2. Situational motivation for smoking	Some individuals smoke out of boredom and not necessarily because they enjoy smoking.		Some people smoke when bored. Perhaps occupational conditions could encourage a person to smoke to relieve boredom, without any personal attachment to smoking. After work, when the boredom vanishes, so does the smoking habit.
3. Physiological effects of nicotine		Perhaps your students know firsthand of individuals who have attempted to stop smoking. Describe the physical and emotional reaction of a heavy smoker who is attempting to discontinue his smoking habit.	Although there is no conclusive evidence that smoking is an effective tension-reducer, many people believe it helps them to relax. Psychological factors are undoubtedly involved.
4. Personal factors			Personal factors would include a liking of tobacco taste or other psychological factors, i.e., oral satisfaction.
D. Discontinuing the smoking habit	The probability of an individual's discontinuation of smoking is greatest if he began to smoke late in life, if he has not smoked for many years, and if he is not a heavy smoker.	Select two or three students to find information on "smoking withdrawal" clinics. It would be interesting to discover how these clinics operate and to what extent they have been successful.	The rate of discontinuation of smoking has been found to be highest among those who began smoking late in life, who smoked the least number of cigarettes, and who had smoked the least number of years.
1. Factors involved			
2. Among teen-agers	Many people are successful in breaking the smoking habit, but the motivation to do so must be high.		Former teen-age smokers have indicated that lack of enjoyment and dislike for smoking are the major reasons for stopping smoking.

REFERENCE	MAJOR UNDERSTANDINGS AND FUNDAMENTAL CONCEPTS	SUGGESTED TEACHING AIDS AND LEARNING ACTIVITIES	SUPPLEMENTARY INFORMATION FOR TEACHERS
3. Adults		Another small group of students might visit with a local pharmacist to determine how many "over-the-counter" pills, capsules, etc. are now available which are advertised as being effective in helping one to stop smoking.	It is estimated that approximately 10-13% of adult smokers quit smoking. Reasons commonly offered are: --health considerations --the expense is too great --moral reasons --desire to test their "will power"
		Write for materials from the U.S. Government Printing Office and to organizations interested in controlling the smoking habit.	
II. Physiological Effects of Tobacco			
A. Composition of tobacco smoke	Tobacco smoke consists of many complex substances, some of which irritate the lungs and other parts of the respiratory tract.		Several hundred million to several billion particles are found in each cubic centimeter (1/4 teaspoonful) of tobacco smoke. At least nine gases in tobacco smoke are irritating to the respiratory system.
1. Complex mixture of gases and finely-divided liquid and solid particles			
2. Compounds of medical interest	Some of the elements of tobacco smoke have been carefully studied by medical and biological researchers, and their irritating effects on the body are well understood.	Have a student committee do research reading in the Surgeon General's Report and report to the class on the variety of toxic substances in tobacco.	
a. Nicotine	Nicotine is an oily, poison-		The physical effects of smoking

REFERENCE	MAJOR UNDERSTANDINGS AND FUNDAMENTAL CONCEPTS	SUGGESTED TEACHING AIDS AND LEARNING ACTIVITIES	SUPPLEMENTARY INFORMATION FOR TEACHERS
	ous substance. There is enough nicotine in one cigarette to cause death, were an individual to receive the full amount directly into his circulatory system.		are a result of the action of nicotine inhaled in tobacco smoke. The more a smoker inhales, the more nicotine he absorbs.
b. Carbon Monoxide	Substances in tobacco smoke interfere with the normal supply of blood and oxygen available to body tissues.	Discuss the danger of asphyxiation from exhaust fumes containing carbon monoxide.	Carbon monoxide is formed as a result of incomplete combustion. During the immediately after smoking, the CO content of the blood increases as much as 10%. At 98.6°F. the affinity of hemoglobin for CO is 200-300 times greater than for oxygen. The increase of 5%in carbon monoxide-hemoglobin (CO-Hb) corresponds to the loss of 1/4 of a liter of blood for oxygen-conveying purposes. The implications for physical performance are obvious.
c. Chemical irritants and carcinogens	Several specific chemicals which are harmful to the smoker's health have been identified in tobacco smoke.		Cigarette tobacco contains more tar than cigar smoke. These tars have been classified as carcinogenic, or cancer-producing. At least eight compounds have been identified in tobacco smoke as being carcinogenic.
	In view of the apparent health dangers involved in smoking, an individual who does not smoke should be discouraged from smoking and the active smoker should be encouraged to stop smoking.		Tars are complex compounds found during the combustion of tobacco. Arsenic, another carcinogenic substance present in tobacco is a residue from insecticides used for spraying tobacco plants.

REFERENCE	MAJOR UNDERSTANDINGS AND FUNDAMENTAL CONCEPTS	SUGGESTED TEACHING AIDS AND LEARNING ACTIVITIES	SUPPLEMENTARY INFORMATION FOR TEACHERS
B. Facotrs affecting the composition of tobacco smoke			
1. Production and processing procedures	The amount of nicotine and other irritants in tobacco smoke is determined by the type of tobacco smoked, certain production and manufacturing processes, and the manner of smoking the tobacco.	Student research on the varieties of tobacco cultivated in the United States and the qualities claimed for each variety.	The amount of nicotine and other substances in tobacco varies, due to differences in the soil, the variety of the tobacco leaf, and in the processing method itself. The shorter and thicker the cigarette, the more nicotine passes out with the smoke. Nicotine becomes more available in loosely packed cigarettes, and the nicotine content appears to be higher in dry tobacco.
2. Manner of smoking a. Speed of smoking b. Inhalation c. Butt length	Smoking is more injurious to one's health if the person smokes rapidly, inhales the smoke, and leaves a short butt end.	Discuss the extent to which "Smoking and Health" researches have taken into consideration the rate of smoking, butt length, etc. Use the "smoking machine" to compare tar residue accumulated from different length butts.	The faster the cigarette is smoked, the higher the nicotine concentration in the smoke. Inhaling the smoke may increase the absorption of nicotine as much as ten times that expected if one did not inhale. The amounts of nicotine and other substances ingested increase as more of a given cigarette is smoked.
C. Tobacco and the body			

EFERENCE	MAJOR UNDERSTANDINGS AND FUNDAMENTAL CONCEPTS	SUGGESTED TEACHING AIDS AND LEARNING ACTIVITIES	SUPPLEMENTARY INFORMATION FOR TEACHERS
. Respiratory system	Tobacco smoke interferes with the normal cleansing action of the cilia and mucus membrane lining the breathing passages of the respiratory system.		
a. Ciliary action			Cilia are the fine, hair-like projections which line the respiratory tract and serve to reject harmful materials by moving a continuous film of mucus upward in the respiratory tract toward the mouth. Smoking hampers the action of cilia and eventually shortens and destroys them, thus permitting the accumulation of toxic substances in the lungs.
b. Mucus membrane		Using an anatomical chart or model, point out the location of mucus membrane in our respiratory system. Discuss its functions.	Smoking causes irritation to the mucus membrane of the nose and throat. This is probably due to the presence of a variety of substances in the smoke i.e., volatile acids, phenols, ketones, and aldehydes. Tobacco smoke stimulates the secretion of mucus and delays its removal by slowing down the action of cilia lining the bronchial tubes.
c. Lung cancer and other respiratory diseases	Cigarette smoking is a cause of lung cancer in both men and women.		
1) Lung cancer	Chances of developing lung cancer increase greatly the longer one smokes and the more one smokes.		The risk of developing lung cancer increases with the duration of smoking and the amount smoked, and is diminished by stopping smoking.
	Smokers who discontinue the habit decrease the likelihood that they will develop lung cancer.	FS #4 (I'll Choose the High Road)	In comparison with nonsmokers, average male smokers increase

EFERENCE	MAJOR UNDERSTANDINGS AND FUNDAMENTAL CONCEPTS	SUGGESTED TEACHING AIDS AND LEARNING ACTIVITIES	SUPPLEMENTARY INFORMATION FOR TEACHERS
			their chances of developing lung cancer by nine or ten times. For heavy smokers, the risk is approximately twenty times greater.
			More recent evidence suggests that the same risks are present in women smokers, but to a lesser degree.
	The risk of lung cancer is greater for those who smoke pipes and cigars than for those who do not smoke. The greatest risk factor, by far is among those who smoke cigarettes		The risk of developing lung cancer is greater among pipe and cigar smokers than for non-smokers, but considerably less than for cigarette smokers.
2) Chronic bronchitis	Cigarette smoking is the most important cause of chronic bronchitis in the United States, and increases the chances of dying from chronic bronchitis and emphysema.	Using a model or physiology charts, show the students the respiratory system.	Bronchitis is an inflammation of the lining of the bronchial tubes. These tubes, called bronchi, connect the windpipe with the lungs. When the bronchi are inflammed, the air flow from the lungs becomes labored and a heavy mucus is coughed up. Bronchitis becomes chronic when the coughing and spitting up of mucus persists for months and returns each year. The use of antibiotics is effective in treating many cases of chronic bronchitis, but an essential part of the treatment is discontinuation of smoking.

REFERENCE	MAJOR UNDERSTANDINGS AND FUNDAMENTAL CONCEPTS	SUGGESTED TEACHING AIDS AND LEARNING ACTIVITIES	SUPPLEMENTARY INFORMATION FOR TEACHERS
3) Emphysema	Although there is no clinical proof that cigarette smoking is a direct cause of emphysema, a large percentage of those suffering from emphysema are heavy smokers.	Distribute materials from the American Cancer Society (pamphlets) on emphysema and chronic bronchitis.	Emphysema often is a late effect of chronic bronchial inflammation and infection. When the bronchi become irritated, obstruction of airways may result and air is trapped in the lung tissue beyond the obstruction. Sometimes the tissue walls of the air spaces in the lung tissue tear. The result is a decreased contact of blood and air. In short, a less efficient exchange of gases results and this leads to the extreme shortness of breath characteristic of emphysema. A casual relationship between cigarette smoking and emphysema has not been established. The incidence of emphysema among heavy smokers leaves little doubt that a cause and effect relationship exists between the two.
2. Circulatory system a. Pulse	Nictoine increases the rate of heartbeat and prevents the heart from receiving sufficient rest between contractions.	Demonstrate proper way of taking pulse. Have students suggest factors which affect the pulse rate.	
		Perhaps parents who smoke will agree to be subjects in an attempt to determine the effects of smoking on the heart rate and hence, pulse rate. Your students should be aware of other factors which influence pulse rate	As a rule, smoking stimulates the heart rate. Although the general irritating effect of tobacco may be a factor in causing the heart to beat faster, most evidence points to nicotine as the substance most responsible for the increased rate.

REFERENCE	MAJOR UNDERSTANDINGS AND FUNDAMENTAL CONCEPTS	SUGGESTED TEACHING AIDS AND LEARNING ACTIVITIES	SUPPLEMENTARY INFORMATION FOR TEACHERS
		and should attempt to eliminate these variables so as to more accurately determine how smoking affects pulse rate.	A smokers heart beat may increase 15-25 beats per minute for 10-20 minutes after smoking ends. This tends to lessen the amount of rest received by the heart.
b. Blood pressure	Blood pressure increases during and after smoking. Some medical opinion suggests that heavy smoking could cause a constant elevation of one's blood pressure, a condition that might lead to organic damage to the vascular system.		Studies invariably show an elevation of blood pressure during and after smoking. In some individuals the effects may last as long as one hour after smoking the cigarette. If smoking were continuous, the elevation in blood pressure might be permanent and cause organic damage to the blood vessels.
c. Peripheral circulation	Small blood vessels in the toes and fingers are constricted by the action of tobacco. Some medical authorities recognize that this may interfere substantially with the supply of oxygen to these parts of the body.	Demonstrate the effect of constriction on the flow of water through rubber tubing. Simply compress the tubing with your hand or squeeze it together with the fingers.	Peripheral blood vessels constrict during smoking, causing the temperature in the fingers and toes to decrease as much as 6^{o}. Whether the temperature decrease persists long enough to interfere with the amount of blood needed by the extremities is still unclear.

REFERENCE	MAJOR UNDERSTANDINGS AND FUNDAMENTAL CONCEPTS	SUGGESTED TEACHING AIDS AND LEARNING ACTIVITIES	SUPPLEMENTARY INFORMATION FOR TEACHERS
a. Coronary circulation	Evidence about the effect of smoking on coronary circulation is inconclusive at this point.	Using a model of the human heart, or anatomy and physiology charts, show your students the location of the coronary blood vessels. Discuss the special purpose of this system.	The coronary vessels supply the heart itself with blood and nutrient materials. Evidence of the effects of smoking on coronary circulation is conflicting. Animal experiments have suggested that, in general, small amounts of nicotime increase coronary flow, while large amounts cause constriction of coronary vessels. Recent experiments have shown that cigarette smoking either increases or has little effect on coronary circulation
	It has been established that cigarette smokers have a substantially higher death rate from coronary artery disease than do nonsmokers.	Suggest that students ask their family physicians how they feel about a coronary patient's desire to contimue smoking. Do they allow them to smoke? Why? Using the Surgeon General's Report for data, have class prepare graphs comparing heart disease rates among smokers and nonsmokers.	Heart disease is the most common cause of death in the United States. The death rate from coronary heart disease is greater among smokers than nonsmokers. The Surgeon General's Report on Smoking and Health states that coronary artery disease is the chief contributor to the excess number of deaths of cigarette smokers over nonsmokers, with lung cancer in second place.
	One definite thing that an individual can do to avoid premature death from coronary artery disease or lung cancer is to avoid starting the smoking habit or, if he already smokes, to greatly reduce the amount he smokes, or stop altogether.		Coronary artery disease accounts for approximately 45% of the excessive deaths among cigarette smokers, whereas lung cancer accounts for approximately 16%.

REFERENCE	MAJOR UNDERSTANDINGS AND FUNDAMENTAL CONCEPTS	SUGGESTED TEACHING AIDS AND LEARNING ACTIVITIES	SUPPLEMENTARY INFORMATION FOR TEACHERS
			Although a causal relationship between smoking and coronary artery disease has not been established, over twice as many deaths among smokers are caused by coronary artery disease than are caused by lung cancer.
			Men who stop smoking have a lower death rate from coronary artery disease than those who continue smoking.
3. Digestive system			
a. Appetite	Smoking tends to reduce the appetite, especially if one smokes before eating a meal.		Following the smoking of a cigarette, gastric hunger contractions may be temporarily inhibited for a period of up to one hour.
	The increased appetite which may result from stopping smoking could result in increased weight. If one is interested in his health he will not rationalize his situation and resume smoking.	The numbing effect of tobacco on taste buds may be compared with the effect of extreme cold on taste buds. Apply an ice cube to the tongue of one of your students and determine his ability to taste sweet, sour, bitter, and salty substances. How does this affect digestion?	Nicotine acts on the adrenals temporarily elevating blood-sugar level, resulting in a possible relief from fatigue and a decrease in appetite.
	The senses of taste and smell are usually less sensitive in smokers, due to the numbing effect of tobacco on sensory endings in the nose and throat.		Smoking also tends to dull the senses of taste and smell and this affects one's appetite.

REFERENCE	MAJOR UNDERSTANDINGS AND FUNDAMENTAL CONCEPTS	SUGGESTED TEACHING AIDS AND LEARNING ACTIVITIES	SUPPLEMENTARY INFORMATION FOR TEACHERS
b. Salivation			The irritants in tobacco smoke appear to increase the flow of saliva.
c. Gastric activity	Substances in tobacco smoke cause an increase in the flow of gastric secretions which irritate ulcers.		The saliva which absorbs tars and nicotine may be swallowed and produce an irritation to the gastric lining (mucosa) and thus increase the secretion of hydrochloric acid.
	There is no conclusive evidence that smoking will cause ulcers.	Discuss the question - "If there is no conclusive evidence that smoking causes ulcers, why is it that the majority of ulcer sufferers are smokers?"	Smoking on an already empty stomach might aggravate an already-existent stomach ulcer. There is, however, no conclusive evidence that smoking will cause an ulcer.
4. Nervous system	There is no conclusive information on the effects of smoking on the nervous system.		Many researchers have studied the effects of smoking on the intellect, but the results are vague and contradictory.
5. Physical performance a. Effects on respiratory system	Smoking interferes with the individual's ability to enjoy an optimal level of physical fitness.	After meeting with the members of the junior high school and senior high school coaching staff, ask two of your male students to report to the class on the school's smoking policy relative to participation in interscholastic athletics.	Considerable evidence suggests that smoking decreases one's ability to engage optimally in physical activities. The AMA Committee on the Medical Aspects of Sports states - "...acute impairment of pulmonary function in young smokers has been demonstrated. Significant decreases in maximum breathing capacity, which is most important to athletes, have also been disclosed, probably due

REFERENCE	MAJOR UNDERSTANDINGS AND FUNDAMENTAL CONCEPTS	SUGGESTED TEACHING AIDS AND LEARNING ACTIVITIES	SUPPLEMENTARY INFORMATION FOR TEACHERS
			respiratory inflow. Efficient utilization of oxygen in the body is greatly hampered by decreases in its diffusibility in smokers. There is no longer any room for doubt that athletes sould not smoke."
b. Effects on circulatory system	There is no longer any reason to doubt the belief that athletes should not smoke.	F #3 (Tobacco and the Human Body) may be used to review material in this unit. Film Strip: Smoking or Health?	Smoking decreases the amount of blood and oxygen available to our muscles. Buerger's disease, usually found in smokers, is an impaired circulation in lower extremities which is complicated by smoking.

SMOKING AND HEALTH

Unit for Grades 10-11-12

OVERVIEW

High school instruction about smoking should be based on experiences gained in the earlier grades, and is of value in helping the pupil in his explorations of other questions related to smoking.

Exposure to different attitudes toward smoking will increase one's knowledge of, and sensitivity to, the view points of others, whether they be proponents or opponents of tobacco use.

A consideration of the psychosocial implications of smoking is suggested to better develop understandings of the extrinsic and intrinsic motivations for smoking.

Smoking research, as it relates to teenagers, can be examined as a means of stimulating the pupils to reconsider and utilize basic understandings and concepts relative to smoking. Efforts to encourage class research and to share their experience with others in the community is an effective way for these pupils to expand their classroom experience and broaden their understanding of man's use of tobacco.

GLOSSARY

1. Addiction	The state of being devoted to some practice such as taking drugs.
2. Air pollution	Contamination of the air caused by matter that gets into community air as a result of man's activities.
3. Alkaloid	An organic substance havin alkaline properties and containing nitrogen form plants and animals. Some alkaloids are poisonous.
4. Alveoli	Tiny air spaces at the end of each bronchiole in the lungs.
5. Bronchitis	Irritation or inflammation of the lining of the bronchial tubes.
6. Cancer	Any malignant tumor.
7. Cardiovascular	Pertaining to the heart and blood vessels.
8. Cilia	Tiny hair-like processes that help propel fluids. They are found in various parts of the body.
9. Emphysema	Overinflation of the alveoli which results in permanent damage to the lungs.
10. Extroversion	An outgoing personality.
11. Habit	An inclination for some practice acquired by the repetition of a particular act.
12. Introversion	Type of personality in which the individual finds satisfaction in himself and does not actively seek company.
13. Larynx	Voice box; the part of the throat which produces sounds.
14. Mortality	Having to do with death.
15. Nicotine	A poison found in the leaves of the tobacco plant thought to be responsible for part of the effects of tobacco.

16.	Oral cancer	Malignant growths in the mouth.
17.	Physiology	That part of biology which treats of the function of the human body. Science that treats of the functions of living organisms and their parts.
18.	Pulmonary	Relating to the lungs and respiratory system.
19.	Smog	A mixture of smoke and fog in the atmosphere.
20.	Statistics	Numerical facts systematically collected and classified regarding a large group of persons or things.
21.	Tars	Thick brownish-black substances which are the sources of many chemical substances, some of which are carcinogens (cancer producing agents). Tars consist of a mixture of hydrocarbons and their derivatives. Tars are obtained by destructive distillation of carbonaceous matter.
22.	Tobacco	The manufactured products from leaves of the tobacco plant; cigars, cigarettes, pipe and chewing tobacco, and snuff.
23.	Trachea	The windpipe; tube leading from the larynx to the lungs.

SENIOR HIGH SCHOOL
(grades 10, 11, & 12)

I. Attitudes Toward the Use of Tobacco

II. Psychosocial Factors Related to Tobacco Use

III. Smoking Research and Reports

IV. Smoking Among High School Students

OUTCOMES

THE PUPIL IN GRADES 10, 11, AND 12 SHOULD:

----understand the attitudes of different groups toward the use of tobacco

----be aware of the psychological and sociological factors related to smoking

----appreciate the significance of smoking research activities and consider the data obtained in making a decision to smoke or not to smoke

Reference	Concepts	Learning Experience	Information
			Tsar Michael banned smoking in Russia, and those who were caught smoking had their noses cut off and were exiled to Siberia. It is believed that the threat of fire in the wooden houses of this area was the basic reason for this ban. Tobacco bans in Germany by Frederick the Great involved heavy fines for those selling or using tobacco. This measure was more successful than most and is very likely the reason why smoking was not popular in Germany until after 1700.
I. Attitudes Toward the Use of Tobacco		Have students prepare an essay on "Attitudes Toward the Use of Tobacco."	Many other countries issued bans on tobacco use but they were often ineffective. The antitobacco movement reached America after the Revolutionary War. In 1798, Benjamin Rush published an essay entitled "Observations Upon the Influence of the Habitual Use of Tobacco Upon Health Morals, and Property." Rushed claimed that the only way to quench the

Reference	Concepts	Learning Experience	Information
			smoker's thirst was to drink liquor. This was the first significant anti-tobacco document published in the United States.
A. Antitobacco Crusaders of the 19th Century			
1. Early activity			Tobacco reformers of the 19th century included Gerrit Smith, Horace Mann, Henry Ward Beecher, Joel Shaw, George Trask, and Horace Greeley. These individuals agreed with Benjamin Rush that "rum and tobacco are allies." Many antitobacco pamphlets were published in this era. The kind of morality inherent in much of this writing is apparent in the following title, publiched in 1852 by the Rev. Mr. Trask- "Thoughts and Stories for American Lads or Uncle Toby's Anti-tobacco Advice to His Nephew, Billy Bruce."

Reference	Concept	Learning Experience	Information
2. Civil War	Controls of tobacco production during the Civil War were designed to encourage farmers to grow provisions essential to the war effort.	Encourage a student to research the events preceding the famous battle of Antietam. Perhaps his investigation will reveal a small, but somewhat significant role played by tobacco in this conflict.	During the Mexican War, the 1849 "gold rush" and the prosperity of the early 1850's the increased use of tobacco discouraged tobacco reformers.
			The Antitobacco Movement practically disappreared with the Civil War. The tobacco states divided their allegiance during the Civil War. Virginia, North Carolina and Tennessee were Confederate states, while union loyalty was claimed by Maryland, Kentucky, and Missouri.
			The Confederate Congress of 1862 passed a resolution recommending curbs on tobacco and cotton production so that planters could concentrate on raising wartime provisions.

Reference	Comcepts	Learning Experience	Information
B. Recent Opposition (20th Century)			Opposition to tobacco use in the early 1900's was focused on the growing fashion of cigarette smoking.
1. Bans on tobacco sales	Several states have tried with little success, to ban the sale of tobacco products.		The victory of the prohibitionists, in passing the 18th amendment, revitalized the antitobacco movement in this country. An Anticigarette League was formed. This League enjoyed considerable success with church groups. For instance, in 1924, the General Assembly of the Methodist Church passed a resolution that all future Methodist ministers refrain from smoking. Also, the League was instrumental in encouraging tobacco bans in nine states. By 1920, 5 states still enforced these bans.

Reference	Concepts	Learning Experience	Information
2. More active opposition by medical profession	The American Medical Association is engaged in activities designed to discourage smoking.	Write to the American Medical Association for information relative to their views of tobacco use and educational campaigns concerned with smoking. Discuss the extent to which the American Medical Association's position is irrational, scientific, logical, or biased.	Since about 1920 the number of publications dealing with the physiological and pathological effects of smoking has increased. The approach of many medical people was not to condemn smoking, but to warn smokers of the health effects of immoderate smoking.
3. Tobacco taxes		Have students determine the percentage of the cost of a pack of cigarettes which is taxes.	Iowa, in 1921, was the first state to tax cigarettes. By 1941, the number of states taxing tobacco products had increased to 27. The levying of taxes on tobacco was principally for economic reasons. However, part of the motivation had to do with satisfying the demands of antitobacco groups which had repeatedly failed in achieving tobacco prohibition.

Reference	Concepts	Learning Experience	Informations
4. Health Organizations	Agencies vitally concerned with the health status of Americans, are vigorously involved in antismoking programs.	Divide your class into groups and have each group write to one of the following organizations for information about smoking:	
		American Cancer Society American Heart Association National Tuberculosis Assn. National Congress of Parents and Teachers American Association for Health, Physical Education & Recreation American Medical Association	The American Cancer Society, American Heart Association, National T.B. Association, and other voluntary health groups have organized educational campaigns to discourage the use of tobacco.
		Invite a representative of your local medical society to speak to your class about "Smoking and Health."	The National Interagency Council on Smoking and Health is a voluntary assn. of 22 professional, private, voluntary, and governmental agencies which was formed in 1964 under the leadership of voluntary agencies and the U.S.P.H.S. The purpose of the N.I.C.S.H. is to educate the public to the health hazards of cigarettes.
5. Professional groups	The leading scientific and medical groups in the country acknowledge the health hazards of smoking.	Have groups of students report on the results of their correspondence with the above organizations.	
			The American Medical Assn. recognizes "a significant relationship between cigarette smoking and the incidence of lung cancer and certain other diseases."

Reference	Concepts	Learning Experience	Information
			The American Assn. for Thoracic Surgery, The American College of Chest Surgeons, and the Society of Thoracic Surgeons all passed resolutions in 1965 recognizing the contributory effects of cigarette smoking on pulmonary emphysema and lung cancer, and endorsing continuing anti-smoking campaigns.
		Arrange for a representative of Roswell Park Memorial Institute to speak to the P.T.A. or similar community groups about the health hazards of smoking, and the activities of the Roswell Park staff.	The House of Delegates of the A.D.A. has urged members of the A.D.A. to undertake educational efforts to inform their patients of the health hazards of smoking.
		Have students read "Cigarette Warning, the Aftermath," which appeared in the U.S. News of Jan. 27, 1964. This will serve as a basis for a general class discussion.	Medical, dental, nursing, and other professional organizations have endorsed anti-smoking compaigns in several states, including-Alaska, Arizona, California, Colorado, Connecticut, Florida, Hawaii, Idaho, Maine, Massachusetts, Michigan, Minnesota, New Jersey, New Mexico, New York, North Dakota, Ohio, Pennsylvania, South Dakota, Texas, Utah, Vermont, Washington, and the District of Columbia.

Reference	Concepts	Learning Experience	Information
C. Proponents of Tobacco Use			
1. Tobacco-producing states a. Economic importance of tobacco industry	The sale of tobacco is presently essential to the economic well-being of certain areas of the United States.	Request information about tobacco production and use from tobacco-producing states. Students analyze the appeals made via these materials. Plan for two groups of students to debate the following: "The federal government should (should not) sponsor competitive industry in tobacco-producing states, in order to reduce tobacco production."	Those states whose economies are based heavily on the tobacco industry have resisted attempts to discourage tobacco use, but often concede that excessive smoking, like excessive eating, excessive drinking, and excessive speed in autos could be dangerous to health. The tobacco-producing states agree that something should be done to solve the problem so long as the measures do not seriouly affect their economies. The value of the tobacco industry to the United States is approximately $8 billion annually. Nearly 800,000 farm families depend on tobacco as their No. 1 money crop. The economic welfare of approximately 17,000,000 Americans is dependent to a greater or lesser degree on tobacco. The tobacco industry purchases 25% of the nation's foil and is a leading user of paper products.

Reference	Concepts	Learning Experience	Information
			The Federal Government collects in excess of $2 billion annually from tobacco taxes. The State governments of the nation collect another $1 billion per year.
b. Encourage more research	The tobacco industry, while not rejecting research completed to date, has urged the government to engage in additional research on tobacco and health.	Request copies of the pamphlet "Your Health and Cigarettes," available from the American Cancer Society.	In view of the importance of tobacco to our national economy, these states urge the government to conduct more research so as to identify the basic problems. They do not support any measures to prohibit tobacco use.
2. Tobacco Industry Research Council		A member of the class might write a letter to the Tobacco Research Council and request a copy of the cigarette advertising code agreed upon by the tobacco industry on April 27, 1964. Using this code as a basis for judgment, determine to what extent tobacco advertising conforms to this code.	At the beginning of 1954, cigarette manufacturers and tobacco growers formed the Tobacco Industry Research Committee to finance research relating to tobacco and health. This group feels that many broad areas must be carefully researched before final answers to the question of tobacco and health will be known. TIRC believes that any decision affecting the gigantic tobacco industry should be made by Congress, rather than the FTC or any other similar group. Unwise regulations or legislation could have repercussions on the nation's economy.

Reference	Concepts	Learning Experience	Information
3. Major arguments of the "doubters"	The vast majority of people who question validity of the evidence against smoking are smokers.	Perhaps some students doubt the evidence lihking smoking with lung cancer and other diseases. Determine who these students are and have them summarize their reasons for doubting. How many of the "doubters" are smokers? Determine which students accept the fact that smoking is a health hazard. They should have little difficulty supporting their views. Plan a class discussion on the topic, "How convincing is the case against smoking?"	
a. "The cause of cancer is unknown so how can one say that cigarette smoking causes lung cancer?"	Specific cancer-producing agents have been identified.		Specific carcinogens have been determined for many types of cancer. Many measures of disease prevention (e.g., smallpox vaccination) were used long before the cause of the disease was known. Although the exact cause of diabetes is unknown, there is no doubt that insulin is of value to diabetics.
b. "The evidence is only statistical and is therefore inconclusive."	The use of statistical evidence is a universally accepted scientific procedure.	Perhaps students could suggest how this evidence could be anything but "statistical"!	Much scientific evidence must of necessity be statistical. The proper use of statistics is an accepted scientific technique. Without purely statistical observations, Thalidomide (a medication taken by

Reference	Concepts	Learning Experience	Information
			women during pregnancy would still be responsible for thousands of deformed babies.
c. "Not all cigarette smokers or even all heavy smokers develop cancer."		Review the morbidity and mortality rates for lung cancer, emphysema, etc., among smokers and non-smokers.	Our evidence of the effectiveness of oral polio vaccine is based on statistical population studies. To medical men this is not surprising, because individual differences in susceptibility and resistance to disease are much more common than is uniformity. For example, less than 2% of those infected with the polio virus develop polio. Yet, we don't doubt the role of the virus in causing polio.
d. "Cigarette smoking cannot be the cause of lung cancer because other causes have been demonstrated."	Although the relationship between smoking and health is clearly established, authorities recognize that other enviromental factors (i.e., atmospheric pollution) are also related to the incidence of lung cancer.	Students might investigate the lung cancer, bronchitis, and emphysema rates in states which are predominantly rural and those which are largely urban. Use of the film, "Breaking the Habit," might be useful at this point(F #9), especially if the "doubters" in your class are beginning to question their desire to smoke.	It is true that the inhalation of dusts containing radioactive ores, chromates, nickel, etc., can cause cancer, and it is possible that atmospheric pollution by auto exhaust fumes may also cause the disease. This, however, does not invalidate the evidence implicating cigarette smoking as the major cause of lung cancer. Authorities have never maintained that smoking is the only cause.

Reference	Concepts	Learning Experience	Information
II. Psycho-social Related to Tobacco Use			Present evidence does not indicate that a true "smoker personality" exists. Psychometric devices designed to measure personality vary greatly and often yield contradictory results. Many of these tests are of uncertain validity. The Surgeon General's Report states that "at the present state of knowledge, it is more fruitful and more valid to speak not in terms of smoker personality, but rather in terms of discrete personality characteristics which may be found to be associated with smokers."
A. Psychological Factors	Although no true "smoker's personality" has been identified, there are distinct personality characteristics associated with smokers.		
1. The "smoker personality"		Organize buzz groups to discuss personality traits that are frequently more common among smokers than nonsmokers. Have each group report to the entire class to compare discussion conclusions.	
a. Extroversion and introversion			A "reasonably" valid study conducted by Eysenck in England showed a very significant relationship between extroversion and smoking. He found that heavy smokers exhibited more extroverted traits than medium smokers, who in turn were more extroverted than light smokers or ex-smokers. Nonsmokers and pipe smokers were least extroverted. The general finding was that smokers tend to be more outgoing than nonsmokers. Subsequent studies have corroborated Espenk's work while others have not.

Reference	Concepts	Learning Experience	Information
			women during pregnancy would still be responsible for thousands of deformed babies.
c. "Not all cigarette smokers or even all heavy smokers develop cancer."		Review the morbidity and mortality rates for lung cancer, emphysema, etc., among smokers and non-smokers.	Our evidence of the effectiveness of oral polio vaccine is based on statistical population studies. To medical men this is not surprising, because individual differences in susceptibility and resistance to disease are much more common than is uniformity. For example, less than 2% of those infected with the polio virus develop polio. Yet, we don't doubt the role of the virus in causing polio.
d. "Cigarette smoking cannot be the cause of lung cancer because other causes have been demonstrated."	Although the relationship between smoking and health is clearly established, authorities recognize that other enviromental factors (i.e., atmospheric pollution) are also related to the incidence of lung cancer.	Students might investigate the lung cancer, bronchitis, and emphysema rates in states which are predominantly rural and those which are largely urban. Use of the film, "Breaking the Habit," might be useful at this point(F #9), especially if the "doubters" in your class are beginning to question their desire to smoke.	It is true that the inhalation of dusts containing radioactive ores, chromates, nickel, etc., can cause cancer, and it is possible that atmospheric pollution by auto exhaust fumes may also cause the disease. This, however, does not invalidate the evidence implicating cigarette smoking as the major cause of lung cancer. Authorities have never maintained that smoking is the only cause.

Reference	Concepts	Learning Experience	Information
II. Psycho-social Related to Tobacco Use			Present evidence does not indicate that a true "smoker personality" exists. Psychometric devices designed to measure personality vary greatly and often yield contradictory results. Many of these tests are of uncertain validity. The Surgeon General's Report states that "at the present state of knowledge, it is more fruitful and more valid to speak not in terms of smoker personality, but rather in terms of discrete personality characteristics which may be found to be associated with smokers."
A. Psychological Factors	Although no true "smoker's personality" has been identified, there are distinct personality characteristics associated with smokers.		
1. The "smoker personality"		Organize buzz groups to discuss personality traits that are frequently more common among smokers than nonsmokers. Have each group report to the entire class to compare discussion conclusions.	
a. Extroversion and introversion			A "reasonably" valid study conducted by Eysenck in England showed a very significant relationship between extroversion and smoking. He found that heavy smokers exhibited more extroverted traits than medium smokers, who in turn were more extroverted than light smokers or ex-smokers. Nonsmokers and pipe smokers were least extroverted. The general finding was that smokers tend to be more outgoing than nonsmokers. Subsequent studies have corroborated Espenk's work while others have not.

Reference	Concepts	Learning Experience	Information
b. Neuroticism	Much of the research dealing with smoking and personality is ambigous and inconclusive.	Review the general characteristics of neurotic behavior.	Many investigators insist that a vague relationship exists between the smoking habit and the neurotic personality. Variations in research techniques and conceptualization of neurotic behavior have precluded meaningful results.
2. Psychonalytic theory			
a. Oral hypothesis			Psychoanalysts have theorized that smoking (like thumb-sucking) is a repressive oral activity related to the pleasure sensation. They further believe that male thumb suckers are more likely to smoke and drink in adult life. Support of the oral hypothesis comes from the observation that individuals who stop smoking frequently increase their food consumption and thereby continue gratifying themselves orally.
b. Disagreement by other researchers			
c. Masculinity characteristics			Between 1933 and 1942, 252 Harvard sophomores (males) were selected for study and they were studied for several years. In this study, smokers (60 smokers) appeared to be much less masculine than nonsmokers. The more they smoked, the less masculine they appeared.

Reference	Concepts	Learning Experience	Information
		Students might "brain storm" on findings of Harvard study, reacting to the research design and the findings.	"These less masculine persons," states the Harvard study, "tend to have an aversion for strenuous exercise and sports, are apt to be low in physical fitness for hard muscular work and are often poor in muscular coordination." Because only 60 smokers were included in the 252 subjects and the size of the sample limits the validity of the findings. The question of what constitutes "masculinity" also limits these conclusions.
B. Demographic Factors 1. Age	Most young people do not smoke before age 12, but after this age, the prevalence of smoking steadily increases.	As a class activity, have students suggest a format for a questionaire designed to determine the following information: . age of first experimentation with smoking . grade level . sex . current status as smoker . if a smoker, has the amount of smoking increased since beginning the habit? . average weekly cost of maintaining the smoking habit . would you like to stop smoking? . other pertinent information	Available data indicate that few children smoke before the age of 12, probably less than 5% of the boys and less than 1% of the girls. After age 12, there is a fairly steady increase in the prevalence of smoking. At the 12th grade level between 40 and 55% of the young people smoke. There is a further increase up to 40 years of age, after which a decline is observed. In the 65 plus age group, smoking is habitual in approximately 20% of the males and 4% of the females. Probably 10% of smokers begin in the preteen years and 65% during their high school years.

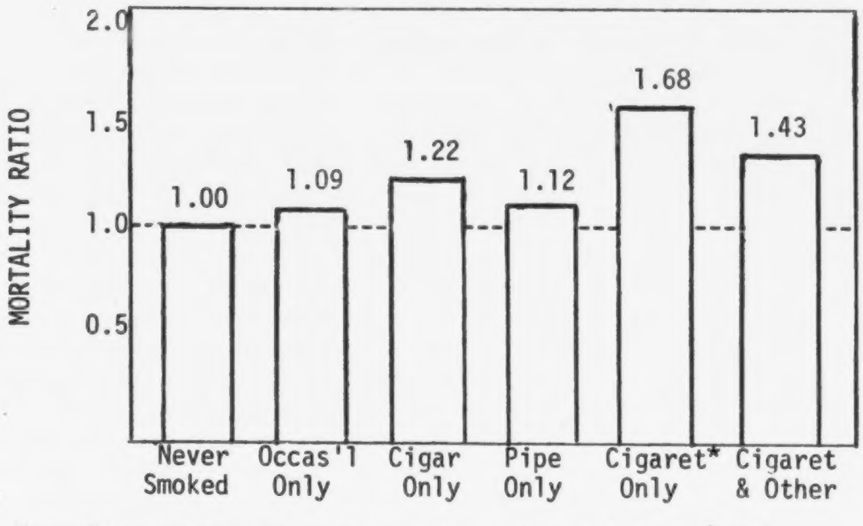
Reference	Concepts	Learning Experience	Information
		The use of this questionaire throughout the secondary grades could elicit valuable information which might have implications for an "all school" anti-smoking campaign.	
2. Socioeconomic level	The lower socioeconomic levels appear to have proportionately more smokers, who start smoking at younger ages, than higher socioeconomic levels.		Despite variations in the use of criteria to differentiate various socioeconomic levels, there is consistent evidence that smoking patterns are related to socioeconomic levels. Lower or working classes contain more smokers and earlier starters. Curiously enough, income level does not appear to be consistently related to the prevalence of smoking.
3. Occupation	Inconclusive studies have demonstrated smoking habits to be related to occupational status in many ways.	Discuss various reasons why lower socioeconomic groups have proportionately more smokers who began their habits at earlier ages.	Farm workers generally have a lower smoking rate than professional workers. The unemployed are more likely to smoke than the employed. One research suggests that smokers change jobs more frequently than nonsmokers. White collar, professional, managerial, and technical occupations contain fewer smokers.

Reference	Concepts	Learning Experience	Information
4. Education		A summary of the article, "Smoking and High School Performance" in the American Journal of Diseases of Children, (August 1964) might be interesting to your students.	Those occupations requiring more education tend to have a lower prevalence of smokers. Any additional relationships between smoking and highest education level attained are unclear.
5. Sex	Fewer females than males smoke, but the incidence of smoking is increasing at a faster rate than among men.	Perhaps your class could suggest programs or presentations which might be effective if presented to students in the intermediate grades. Your students could be involved in these programs.	Fewer females than males smoke and their smoking is almost entirely restricted to cigarettes. The proportion of women smokers has increased faster than that of men smokers in recent years.
6. Race	No significant racial differences in patterns of smoking have been demonstrated.		The proportion of smokers is essentially the same among whites and nonwhites in the United States. Many more heavy smokers (those who smoke more than one pack a day) are found among white males and females than in similar groups of nonwhites.
III. Smoking Research and Reports			
A. American Cancer Society Study (1958)		A class member might write to the American Cancer Society to request a copy of the questionaire used in their research.	This study was directed by E.C. Hammond and D. Horn.

Reference	Concepts	Learning Experience	Information
1.Mechanics of Study		Have students react to the design of the American Cancer Society Study (i.e., Was the sample population selected in such a way to reveal valid results? Were urban and rural centers included? Perhaps students can suggest the strengths and weaknesses of this research.	After designing and pretesting a questionaire in 1951, more than 22,000 A.C.S. volunteers were trained as interviewers for the study. A total of 187,873 males, between the ages of 50 and 69 were enrolled from 394 counties in 9 states. Each of these men were followed up for a period of 44 months.
2. Findings			
a. Total death rates, nonsmokers and smokers	The nonsmoker is much less apt to die from lung cancer than the smoker. (Chart 1, page		During the follow-up period, 11,870 deaths were reported in the sample population. Of these, 2,249 were attributed to cancer.
	The total death rates increased progressively with the number of cigarettes smoked. (Chart 2, page	Students may prepare posters showing that cancer death rates increase as the number of cigarettes smoked increases. Selected posters may be displayed in your school.	The total death rate, from all causes combined, was far higher among cigarette smokers than among pipe and cigar smokers and among nonsmokers, and the death rate increased in direct relation to the amount of cigarette smoking.
			In Chart 1 and others presenting "mortality ratios," the number of deaths of those who never smoked is expressed as 1.00, and the other categories are compared to it by expressing their mortality in ratio to 1.00.

Reference	Concepts	Learning Experience	Information
b. Discontinuation of smoking habit	Smokers who discontinue the habit have a total death rate considerably lower than men who continue to smoke.	What facilities are available in your community to help smokers quit their habit?	See Chart 3, page ; and Chart 6, page
c. Specific causes of mortality	Death rates from cardiovascular disease, cancer, and other pulmonary diseases are significantly higher among those who smoke.		See Charts 4 and 5, pages
B. Report of the Surgeon Generals Advisory Committee	The most comprehensive and widely accepted smoking research to date was conducted by the U.S. government in 1962.	Select a small committee to report on the activities which immediately preceded the recommendation of the Surgeon General (Smoking and Health.)	On June 7, 1962, the Surgeon General announced that he was establishing an expert committee to undertake a comprehensive review of all data on smoking and health. The President later in the same day approved this proposal.

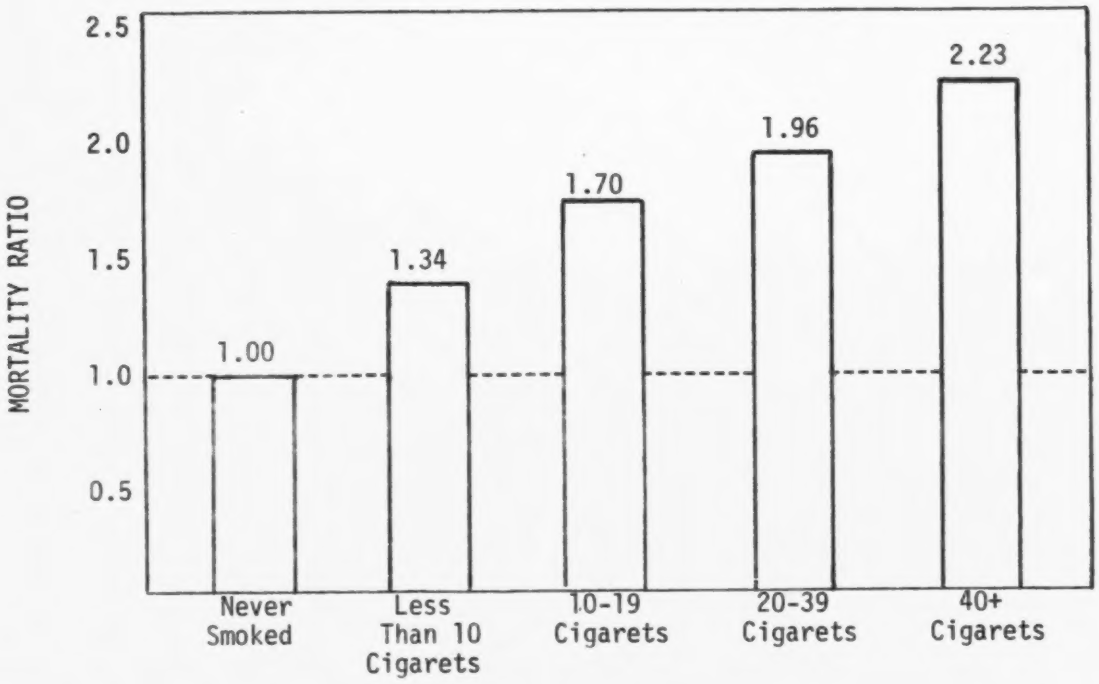
Chart 1
MORTALITY RATIOS: TOTAL DEATHS



*The abbreviated form, "cigaret" is used as it appears in the original charts from which these have been adapted.

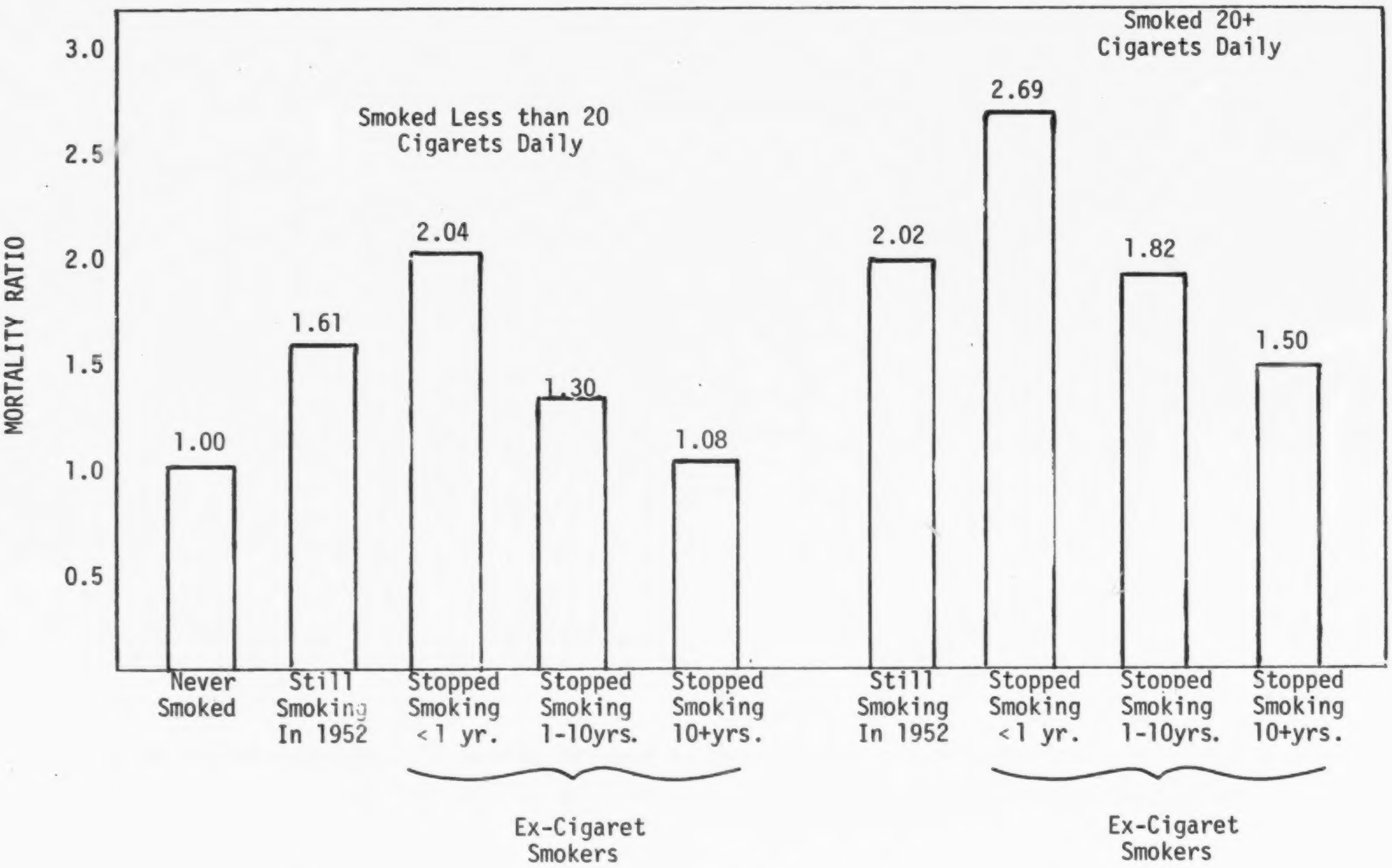
Mortality ratios for total causes of death by lifetime history of smoking.

Chart 2
MORTALITY RATIOS: TOTAL DEATHS



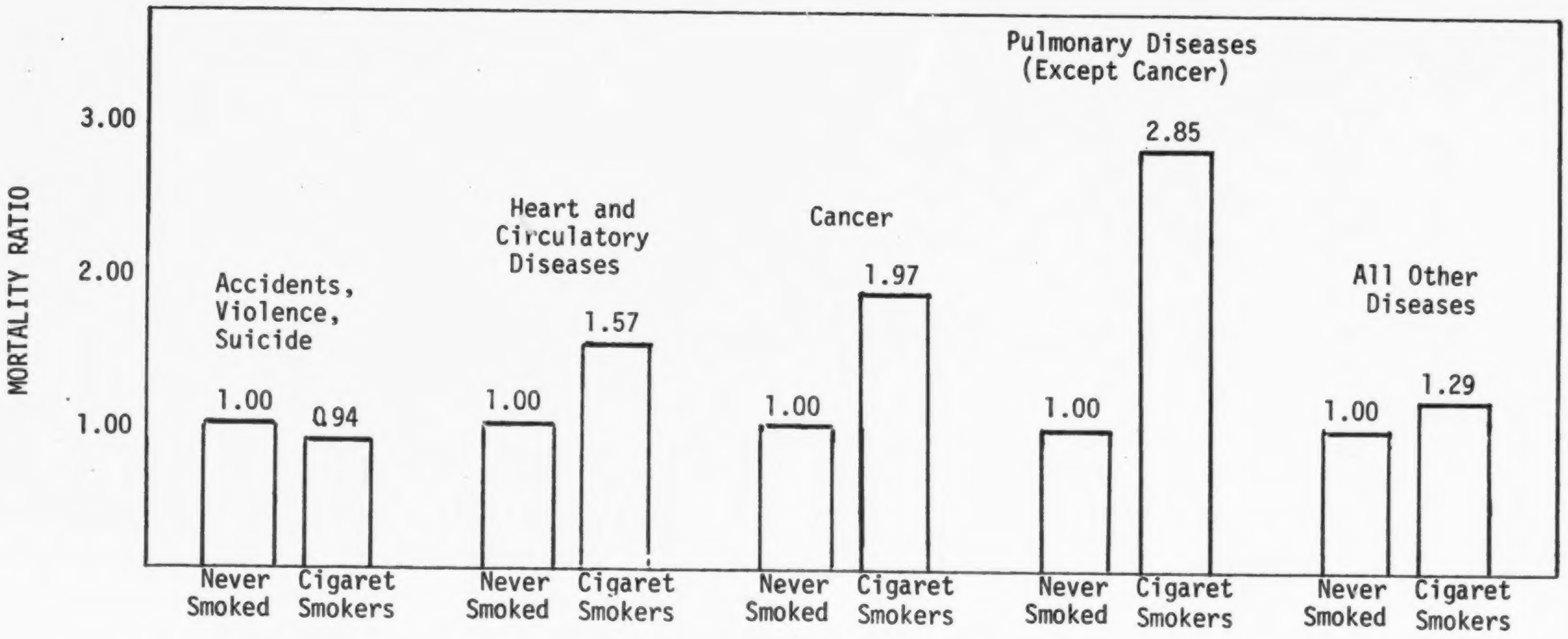
Mortality ratios for total causes of death by number of cigarettes smoked daily at time of enrollment in study.

Chart 3
MORTALITY RATIOS: TOTAL DEATHS



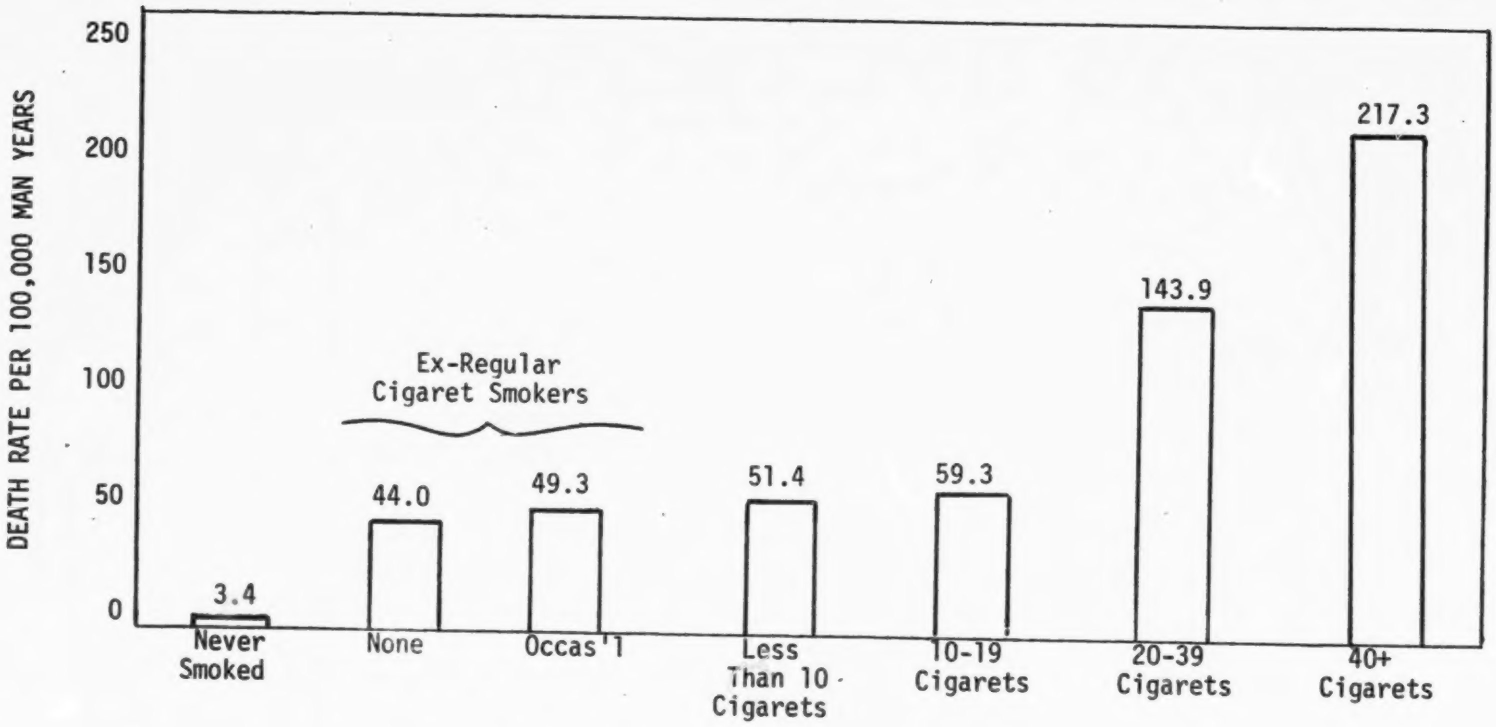
Mortality ratios for total causes of death of men who have stopped smoking cigarettes, men who never smoked, and men still smoking cigarettes at beginning of study.

Chart 4
MORTALITY RATIOS: MAJOR CAUSES OF DEATH



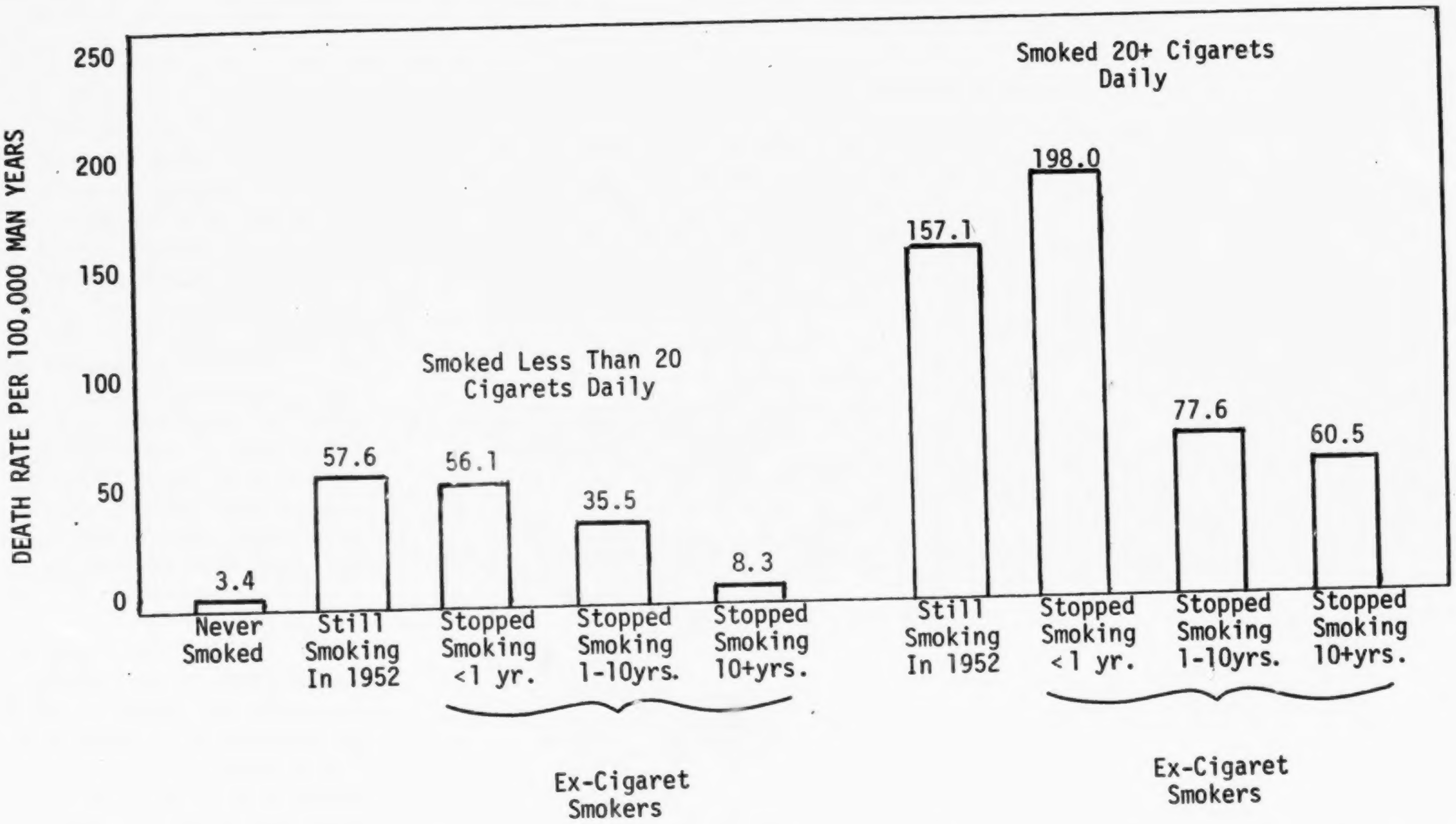
Mortality ratios for major causes of death for cigarette smokers compared to men who never smoked.

Chart 5
DEATH RATES: LUNG CANCER (Confirmed Diagnosis)



Age standardized death rates due to verified cases of bronchogenic carcinoma (exclusive of adenocarcinoma) by number of cigarettes smoked daily.

Chart 6
DEATH RATES: LUNG CANCER (Confirmed Diagnosis)



Age standardized death rates due to verified cases of bronchogenic carcinoma (exclusive of adenocarcinoma). Rates for men who have stopped smoking are compared with those for men who never smoked and those for men still smoking at beginning of study.

Reference	Concepts	Learning Experience	Information
1. Conduct of the Study	Evidence presented by American tobacco interests was considered in preparing the Surgeon General's Report on smoking and health.		A committee of experts carefully reviewed all research published prior to 1960.
2. Types of Evidence	Three major sources of information were used to compile research findings for the Surgeon General's Report.	Arrange for your class to present a program on the Report of the Surgeon General's Advisory Committee to your local P.T.A. organization.	All major tobacco companies were requested to submit evidence and statements. Subcommittees analyzed the data and prepared reports.
a. Animal experiments		Request information from Roswell Park Memorial Institute about animal experiments in cancer research.	As a result of several studies involving experimental animals, seven specific carcinogens were isolated in tobacco smoke. Other substances, not carcinogenic in themselves, were shown to lower the threshold to a known carcinogen.
b. Clinical and autopsy studies			These studies included observations of thousands of patients and autopsy studies of smokers and nonsmokers. Three kinds of cellular changes were observed to be more prevalent in smokers than nonsmokers: 1. loss of ciliated cells 2. thickening of cells 3. formation of atypical cells

Reference	Concepts	Learning Experience	Information
c. Population studies			
(1) Retrospective studies		Illustrate the use of a "control group" in the validation of an investigation.	Retrospecitve studies--the smoking histories of persons with specified diseases were compared with those of appropriate control groups without the disease. These studies demonstrated that proportionately more cigarette smokers are found among lung cancer patients than in the control populations without lung cancer.
(2) Prospective studies			Prospective studies--large numbers of men answered questions about their smoking or nonsmoking habits. Death certificates were obtained for those who died since entering the study, allowing the committee to determine total death rates and death rates from specific causes.
3. The Findings			
a. Cancer by site			(See the direct quotation from Surgeon General's Report, Smoking and Health at the end of this section, pages
(1) Lung Cancer	Cigarette smoking is causally related to lung cancer in men, and the data for women, though inconclusive, point in the same direction.		

Reference	Concepts	Learning Experience	Information
(2) Oral Cancer	There appears to be a relationship between pipe smoking and lip cancer.	Students might work with representatives of local official and voluntary health groups for the preparation of exhibits for your school health or science fair.	
(3) Larynx	Smoking is a significant factor in causing laryngeal cancer in males.		
(4) Esophagus			
(5) Urinary bladder			
(6) Stomach	No relationship has been established between stomach cancer and smoking.	The film, "Is Smoking Worth It?", is available from American Cancer Society, would be useful in stimulating student discussion.	
b. Chronic bronchitis and pulmonary emphysema			
c. Cardiovascular disease	It is established that male cigarette smokers have a higher death rate from coronary disease than do nonsmokers.	The film "Smoking and Health! A Report to Youth" available from Film Associates discovers cancer, bronchitis, and emphysema. 1968.	In a recent study in Albany, N.Y., nearly 2,000 middle-aged men were studied for a period of 8 years. Among these subjects, those who smoked one pack or more of cigarettes daily, there was a threefold increase in the risk of myocardial infarction over nonsmokers or former smokers.
d. Other conditions			
(1) Peptic ulcer	There is an unclear association between peptic ulcers and cigarette smoking.		

Reference	Concepts	Learning Experience	Information
(2) Cirrhosis of the liver			
(3) Maternal smoking and infant weight	Women who smoke cigarettes during pregnancy tend to give birth to smaller babies.		
(4) Smoking & accidents	Smoking is clearly a cause of many home fires.	If your school has closed circuit T.V., your students might plan a television production about smoking and health. This could be geared for specific grade level or for the entire school population.	
IV. Smoking Among High School Students A. American Cancer Society (1958) Research by Horn, et. al. 1. Purposes		The last part of this unit lends itself to student research within the school and community. Active involvement of students in determining school and community smoking patterns is an effective way to increase student interest in the dangers of smoking.	Begun in 1958, this study was undertaken to seek data about the following: 1) the amount and patterning of smoking among school students 2) factors that distinguish smokers from nonsmokers 3) motivations involved in beginning the habit 4) approaches that might be used to influence behavior
2. Mechanics See November 1959 issue of American Journal of Public Health for details of this study.			Administered unsigned questionaire on smoking habits and background data to all the students in the 11 public and 5 parochial high schools in Portland, Ore. In the outlying areas of Portland, 5 additional high

<table>
<tr><th>Reference</th><th>Concepts</th><th>Learning Experience</th><th>Information</th></tr>
<tr><td></td><td></td><td></td><td>Schools (urban) were chosen. Nearly 22,000 high school students took part in the study, approximately 11,000 boys and 11,000 girls.</td></tr>
<tr><td>3. Findings</td><td></td><td>Encourage your students to develop an all-school study to determine the smoking patterns of secondary students.</td><td></td></tr>
<tr><td>a. Distribution of smoking behavior</td><td>The number of young smokers increases proportionately from grade 9 through 12.</td><td>Develop a questionaire with your students and appoint a committee to present your class research proposal to the school administration.</td><td>The proportion of students never having smoked declined steadily during the four school years.</td></tr>
<tr><td></td><td></td><td>Arrange for an announcement in assembly, during homeroom periods, etc., to inform the student body of your interest in their cooperation.</td><td>Approximately 25% of the males and 20% of the females were smokers.</td></tr>
<tr><td></td><td>The amount smoked by the average smoker increases as he progresses from the freshman year to the senior year of high school.</td><td></td><td>Each successive school grade had a higher percentage of smokers than the preceding class:</td></tr>
<tr><td></td><td></td><td>Student committees, with teacher direction, may assume responsibility for preparing and distributing the questionaire, and tabulating the results.</td><td>
<table>
<tr><th>Class</th><th colspan="2">% of Smokers</th></tr>
<tr><td></td><td>Male</td><td>Female</td></tr>
<tr><td>Freshman</td><td>14.5</td><td>4.6</td></tr>
<tr><td>Sophomore</td><td>25.2</td><td>10.6</td></tr>
<tr><td>Junior</td><td>31.1</td><td>16.2</td></tr>
<tr><td>Senior</td><td>35.4</td><td>26.2</td></tr>
</table>
The amount smoked by the average smoker increased from the freshman year to the senior year.</td></tr>
</table>

<table>
<tr><th>Reference</th><th>Concepts</th><th>Learning Experience</th><th>Information</th></tr>
<tr><td>b. Parental smoking behavior</td><td>Parental smoking behavior is significantly related to the smoking behavior of high school students.</td><td>Following the tabulation of your data, each student should be allowed to analyze the research findings and draw his own conclusions from the study.

Devote a class period to individual reporting on the conclusions reached by class members.</td><td>Of all 22,000 students in the study 35% had parents both of whom smoked, 27% reported that only their father smoked, and 4.4% reported that only their mother smoked.

<table>
<tr><th></th><th colspan="2">% of Student Smokers</th></tr>
<tr><th></th><th>Boys</th><th>Girls</th></tr>
<tr><td>Both Parents Smoke</td><td>31.9</td><td>18.5</td></tr>
<tr><td>One Parent Smokes</td><td>25.9</td><td>13.1</td></tr>
<tr><td>Neither Parent Smokes</td><td>16.7</td><td>6.8</td></tr>
</table></td></tr>
<tr><td>. Parental education level</td><td>The level of parent education is related to the age at which their children start smoking.</td><td></td><td>Data suggested that in families of parents with a low educational level, smoking is begun at an earlier age, but that educational level does not affect whether or not smoking is eventually taken up within the high school years.</td></tr>
<tr><td>d. Extracurricular Activities</td><td>Boys who participate in athletics appear to have a lower "smoker rate" than boys who do not participate in athletics.</td><td>Prepare a summary of your research design, findings, and conclusions and distribute it throughout the school. Perhaps the local press would be interested in printing an account of your work.</td><td>Boys who participate in athletics had a proportionately lower "smoker" rate than those not participating.

The percentage of smokers was higher among those students who did not participate in cocurricular activities other than sports.</td></tr>
</table>

Reference	Concepts	Learning Experience	Information
		Perhaps your student council, school or community health council, P.T.A., or similar groups could work jointly with representatives of your class, to develop recommendations based on your findings.	
B. Newton, Massachusetts, Study		Distribute reprints of the Newton, Massachusetts, study (December 1961 issue of the *American Journal of Public Health*) and assign this reading to your class. Students' natural curiosity should cause them to wonder whether the findings of this research might be applied to their own situation.	In 1959, a "smoking pattern" questionaire was completed by approximately 2,800 students (grades 7-12) in the Newton, Mass. public high schools.
1. Purpose of Study			The study was designed to yield pertinent data relative to student smoking patterns, social class and parental smoking.
2. Student Smoking Patterns by Social Class	Student smokers from lower socioeconomic groups appear, in general, to be heavier smokers than those from higher socioeconomic groups.	Discuss possible criteria for determining one's social class. (Family income is probably the most feasible for your purposes.)	For both sexes the percentage of smokers was highest in lower socioeconomic groups. The proportion of students smoking one to four packs of cigarettes each week and those smoking five or more packs per week is approximately twice as high in the lowest as in the highest socioeconomic category.
3. Parental Smoking Patterns by Social Class		Secure administrative approval of your proposal and prepare a questionaire to be completed anonymously by the families of students in your school. (It will	Researchers asked students to classify parents as: regular smokers, occasional smokers, nonsmokers.

Reference	Concepts	Learning Experience	Information
		be necessary to emphasize the importance of anonymity, for obvious reasons.)	More fathers were classified as regular smokers than were mothers.
		Student committees, with close teacher supervision, can construct a questionaire to elicit information similar to that in the Newton Study.	Among the mothers, there were no significant trends relative to socioeconomic group and distribution in any of the smoking categories.
		A cover letter, encouraging family participation could be prepared by your class and distributed with the questionaire.	However, among fathers, the proportion of regular smokers increased and the proportion of nonsmokers decreased substantially, with decreasing social class. If one spouse smokes, there is an increased probability that the other spouse will also smoke.
		Arrange for committees to tabulate the results of your returns.	
4. Influence of Parental Smoking on Students' Smoking Behavior	The association of student smoking with parental patterns is striking.		Student families categorized as follows: 1) both parents-smokers 2) both parents-nonsmokers 3) one parent a smoker, the other a nonsmoker
		Encourage your class to prepare a program for interested parents, P.T.A., etc., in which they present the results of their research.	The association of student smoking with parental smoking patterns is quite striking.
			In families where both parents smoked, the frequency of heavy smoking by students was much more frequent than in families where both parents were nonsmokers.

Reference	Concepts	Learning Experience	Information
		Make the following pamphlets available at the end of your program: 1) Facts for Teenagers, Smoking, Health and You 2) Your Teenage Children and Smoking 3) You Can Quit Smoking: Young Smokers Aren't Really Hooked (Schools and organizations can obtain 50 copies of each of these publications free from the Children's Bureau, Department of Health, Education and Welfare, Washington, D.C., 20201.)	

CANCER BY SITE

Lung Cancer

Cigarette smoking is causally related to lung cancer in men; the magnitude of the effect of cigarette smoking far outweighs all other factors. The data for women, though less extensive, point in the same direction.

The risk of developing lung cancer increases with duration of smoking and the number of cigarettes smoked per day, and is diminished by discontinuing smoking.

The risk of developing cancer of the lung for the combined group of pipe smokers, cigar smokers, and pipe and cigar smoker, is greater than for nonsmokers, but much less than for cigarette smokers. The data are insufficient to warrant a conclusion for each group individually (Chapter 9, p. 196).

Oral Cancer

The causal relationship of the smoking of pipes to the development of cancer of the lip appears to be established.

Although there are suggestions of relationships between cancer of other specific sites of the oral cavity and the several forms of tobacco used, their causal implication cannot at present be stated (Chapter 9, pp. 204-205).

Cancer of the Larynx

Evaluation of the evidence leads to the judgment that cigarette smoking is a significant factor in the causation of laryngeal cancer in the male (Chapter 9, p. 212).

Cancer of the Esophagus

The evidence on the tobacco-esophageal cancer relationship supports the belief that an association exists. However, the data are not adequate to indicate whether the relationship is causal (Chapter 9, p. 218).

Cancer of the Urinary Bladder

Available data suggest an association between cigarette smoking and urinary bladder cancer in the male, but are not sufficient to support a judgment on the causal significance of this association (Chapter 9, p. 225).

Stomach Cancer

No relationship has been established between tobacco use and stomach cancer (Chapter 9, p.229).

NON-NEOPLASTIC RESPIRATORY DISEASES, PARTICULARLY CHRONIC BRONCHITIS AND PULMONARY EMPHYSEMA

Cigarette smoking is the most important of the causes of chronic bronchitis in the United States, and increases the risk of dying from chronic bronchitis.

A relationship exists between pulmonary emphysema and cigarette smoking but it has not been established that the relationship is causal. The smoking of cigarettes is associated with an increased risk of dying from pulmonary emphysema.

For the bulk of the population of the United States, the importance of cigarette smoking as a cause of chronic bronchopulmonary disease is much greater than that of atmospheric pollution or occupational exposures.

Cough, sputum production, or the two combined, are consistently more frequent among cigarette smokers than among nonsmokers.

Cigarette smoking is associated with a reduction in ventilatory function. Among males, cigarette smokers have a greater prevalence of breathlessness than nonsmokers.

Cigarette smoking does not appear to cause asthma.

Although death certification shows that cigarette smokers have a moderately increased risk of death from influenza and pnuemonia, an association of cigarette smoking and infectious diseases is not otherwise substantiated (Chapter 10, p. 302).

Cardiovascular Disease

Smoking and nicotine administration cause acute cardiovascular effects similar to those induced by stimulation of the automatic nervous system, but these effects do not account well for the observed association between cigarette smoking and coronary disease. It is established that male cigarette smokers have a higher death rate from coronary disease than nonsmoking males. The association of smoking with other cardiovascular disorders is less well established. If cigarette smoking actually caused the higher death rate from coronary disease, it would on this account be responsible for many deaths of middle-aged and elderly males in the United States. Other factors such as high blood pressure, high serum cholesterol, and excessive obesity are also known to be associated with an unusually high death rate from coronary disease. The causative role of these factors in coronary disease, though not proven, is suspected strongly enough to be a major reason for taking countermeasures against them. It is also more prudent to assume that the established association between cigarette smoking and coronary disease has causative meaning than to suspend judgment until no uncertainty remains (Chapter 11, p. 327).

Male cigarette smokers have a higher death rate from coronary artery disease than nonsmoking males, but it is not clear that the association has causal significance.

OTHER CONDITIONS

Peptic Ulcer

Epidemiological studies indicate an association between cigarette smoking and peptic ulcer which is greater for gastric than for duodenal ulcer (Chapter 12, p. 340).

Tobacco Amblyopia

Tobacco amblyopia (dimness of vision unexplained by an organic lesion) has been related to pipe and cigar smoking by clinical impressions. The association has not been substantiated by epidemiological or experimental studies (Chapter 12, p.342).

Cirrhosis of the Liver

Increased mortality of smokers from cirrhosis of the liver has been shown in the prospective studies. The data are not sufficient to support a direct or causal association (Chapter 12, p. 342).

Maternal Smoking and Infant Birth Weight

Women who smoke cigarettes during pregancy tend to have babies of lower birth weight.

Information is lacking on the mechanism by which this decrease in birth weight is produced.

It is not known whether this decrease in birth weight has any influence on the biological fitness of the newborn (Chapter 12, p. 343).

Smoking and Accidents

Smoking is associated with accidental deaths from fires in the home.

No conclusive information is available on the effects of smoking on traffic accidents (Chapter 12, p. 345).

TOBACCO

BIBLIOGRAPHY
(pamphlets)

Cancer of the Lung, U.S. Dept. of HEW, 1968.

Cigarette Quiz, Southern Arizona Heart Association.

Cigarette Smoking, Chronic Bronchitis, and Emphysema, U.S. Dept. of HEW, 1967.

Cigarette Smoking and Lung Cancer, American Cancer Society, 1965.

Enjoy the Pleasures of Not Smoking, Southern Arizona Heart Association.

If You Must Smoke, Arizona State Dept. of Health, 1968.

It's Not Too Late to Stop, Southern Arizona Heart Association.

Light on the Subject of Smoking, Southern Arizona Heart Association.

Shall I Smoke?, American Cancer Society.

Smoking Cigarettes, Southern Arizona Heart Association.

Smoke Cigarettes? Why?, American Cancer Society.

Smoking and Cancer, U.S. Dept. of HEW.

Smoking: Facts you Should Know, American Medical Assn.

Smoking and Health, U.S. Dept. of HEW.

Smoking, Health and You, Southern Arizona Heart Association.

Smoking and Illness, U.S. Dept. of HEW.

Task Force For Smoking and Health, Southern Arizona Heart Association.

Teen-agers and Cigarettes, American Cancer Society.

To Smoke or Not to Smoke, (Accompanies the Filmstrip), American Cancer Society.

What's New on Smoking in Print, Southern Arizona Heart Association.

What To Tell Your Parents About Smoking, Southern Association.

Who Me? Quit Smoking?, American Cancer Society.

Your Health and Cigarettes, American Cancer Society.

Your Teenage Children and Smoking, Arizona State Health Dept.

TOBACCO

BIBLIOGRAPHY
(magazines)

Cigarette Ads: A Study in Responsibility, 16: 33-36. December, 1962.

Smoking and Health, One year later, P. 53. The Journal of School Health, February, 1965.

Teen-agers and Cigarettes. 16: 15-16, March 1962.

The Man Who Wrote His Own Obituary, Readers' Digest; Waters. M., July, 1966.

To the Cigarette Makers: Just the Facts Please. Lois Mattox Miller and James Monohan, Readers' Digest Reprint, Pleasantville, N.Y., 10570.

What the Cigarette Commercials Don't Show, Hugh J. Mooney, Readers' Digest Reprint, Pleasantville, N.Y., 10570.

TOBACCO

BIBLIOGRAPHY
(teachers' materials)

Teacher Resource Kits

Smoking and Health, (Charts and Pamphlets); Illinois Office of Public Instruction, 1964.

Smoking and Health, (Charts and Pamphlets), American Cancer Society, 2309 E. Broadway, Tucson.

Tobacco, (Newspaper, Magazine articles and Pamphlets).

TOBACCO

BIBLIOGRAPHY
(filmstrip)

I'll Choose the High Road, American Cancer Society, e-jh.

Nature's Filter, American Temperance Society, 6840 Eastern Avenue N.W., Washington 12, D.C.

Smoking and Health, A Report to Youth, 13 mins., B/W.

Smoking or Health, record, script and booklet, Texas Alcohol, Narcotics Education.

Smoking and You, 15 mins., color, ASDH, js-sh-c-ad.

Tobacco and the Human Body, EBF, 1954, 15 mins., B/W, UofA sh-c-ad

Tobacco and the Human Body, University of Illinois, 15 mins., B/W, SSAV ASDH j-h-a

To Smoke or Not to Smoke, with record, American Cancer Society. Available on permanent loan.

What About Smoking? (with record), Family Films, Inc. 5823 Santa Monica Blvd., Hollywood 38, Calif.

ALCOHOL EDUCATION

Unit for Grades 4-5-6

OVERVIEW

Man has used alcohol from the beginning of history. It has been used in cultural rites, religious rituals, and as medication. Yet, social, medical and personal problems have arisen from the misuse of beverage alcohol.

Alcohol education should be based upon facts in order that today's pupil may make intelligent decisions that are vital to the health and welfare of himself and the society of which he is a part.

OBJECTIVES

The pupil in the upper elementary grades should:

___understand the properties of alcohol

___understand the history of the use of alcohol

___understand the effects of alcohol on the human body

___be aware of the social and economic problems that result from the abuse of alcohol

GLOSSARY

1.	Anesthetic	Something which causes entire or partial loss of feeling.
2.	Antiseptic	Chemical used to slow up growth of bacteria on skin or in wounds.
3.	Alcohol, Ethyl	Liquid used in alcoholic beverages, drugs, and cosmetics.
4.	Alcohol, Methyl	Poisonous liquid used in commercial products.
5.	Beverage	A liquid prepared and used for drinking.
6.	Dilation	Enlargement of---------------
7.	Elimination	Getting rid of; removing from body.
8.	Fermentation	Chemical change giving off bubbles of gas.
9.	Hypnotic	Drug or other means of causing sleep.
10.	Incoordination	Unable to adjust or control movements.
11.	Ingestion	Act of taking in food and drink into body.
12.	Medicinal	Having value as medicine.
13.	Sedative	Medicine that lessens pain or excitement.
14.	Symptom	A noticeable change in the normal workings of the body.
15.	Toxic	Poisonous; caused by poison.
16.	Tranquilized	Drug used to relieve tension.

Reference	Content	Learning Experience	Information
I. Nature of Alcohol			
A. Definition & Properties	There are different types of alcohol.	Have students make bulletin boards for school sharing concerning the use of alcohol in industry and medicine; and the effects of its ingestion in the human body.	
1. Ethyl alcohol	Ethyl alcohol is found in alcoholic beverages.		Today, "alcohol," generally means ethyl alcohol or grain alcohol. Ethyl alcohol is clear, colorless, inflammable, gives a burning sensation in the mouth, and has a pleasant odor. It is produced by the fermentation of sugar or starches.
2. Methyl alcohol	Methyl alcohol is highly poisonous.		Methyl alcohol has benzenes or camphor added to make it unfit as a beverage. Methyl alcohol is very toxic. It is decomposed and eliminated from the body very slowly. The chief symptoms of methyl alcohol intoxication include: irritation of the mucous membranes, headaches, nausea, vomiting, muscular incoordination,

Reference	Content	Learning Experience	Information
	Certain liquids are necessary for growth, others are not conducive to good health.		colic, dilated pupils, impaired vision, blindness, delirium, coma, and sometimes death may occur as a result of methyl alcohol poisoning.
B. Vitamins	Alcohol has little nutrient value.	Make a class list from library books showing body deficiencies in vitamins and minerals.	Alcohol has no vitamins, proteins, or minerals.
C. Calories			Alcohol has high calorie value. A glass of beer (8 oz.) contains about 100 calories.
			One ounce of whiskey contains about 75 calories. If mixed with soft drink you get more calories from sugar content.
		Have students compare the body's use of alcohol with its use of proteins, fats and carbohydrates.	
D. Glandular action	Alcohol is a drug.		Proteins mix with alcohol thus slowing absorption (meat, cheese, eggs, milk).

Reference	Content	Learning Experience	Information
E. Manufacture of alcohol	Beverage (ethyl) alcohol and industrial alcohol are manufactured differently.		Industrial alcohol is now manufactured from petroleum products. Beverage alcohol is made by fermentation of sugar products from grains, or from sugar cane or grapes with yeast, the end products being alcohol and carbon dioxide.
F. Industrial & commercial alcohol is poisonous		Scan newspaper and articles for death caused by drinking industrial alcohol.	Industrial alcohol is a poison that can cause death.
G. Commercial uses of alcohol in food and Medical products, flavoring, solvents, medicines, and antiseptics	Alcohol is used to manufacture many products.	Have students examine labels on bottles in the kitchen and medicine cabinet for alcohol content.	After-shaving lotions contain as much as 35% alcohol. Vanilla extract may contain 30% alcohol and cough medicine 3%, iodine 2%. Hair tonic has about 70% alcohol.
		Have a chemist discuss uses of alcohol.	A 70% or stronger solution of alcohol cools the skin through evaporation, used to bring down fever.
		Write to manufacturers of hair tonic and/or perfumes to see how alcohol aids in preparation of their products.	Alcohol kills germs and is a good skin disinfectant, used on the feet to prevent contagious skin conditions of the feet. Helps to prevent bed sores on bedridden patients.

Reference	Content	Learning Experience	Information
		Show a can of anti-freeze or paint and study the contents used in the manufacture of these products.	Alcohol is also used for anti-freeze in car radiators, solvent in paint and varnishes, plastics, cleaning solutions, cellulose products, explosives, dyes, etc.
H. Medicinal uses	1. Beverage alcohol can be used for medicinal reasons and may be classified as an anesthetic, narcotic, sedative, tranquilizer, or hypnotic.	Ask a local physician under what conditions he might prescribe alcohol for a patient.	Alcohol provides energy rapidly. It may be used as a sedative. Alcohol increases the out put of urine. It may be used as a nutritional supplement.
	2. Beverage alcohol is sometimes prescribed by physicians when there is no specific drug developed to remedy a particular condition.		Alcohol intake may benefit certain heart conditions because it dilates blood vessels. Dilation of blood vessels is sometimes prescribed for patients who have arthritis. Alcohol is sometimes used to relieve pain, the feeling of chilliness, instability and/or tension, and to enhance appetite. Following an operation there may be a need for calories and sedation.

Reference	Content	Learning Experience	Information
II. The use of alcohol in the early days of America			
A. Colonies	Alcoholic beverages were used in the colonies.		In 1619 the Virginia Colony passed the first law against excessive drinking. In 1637 a Captain Sedgwick built the first brewery in America. In New England the excessive drinker was whipped and forced to wear a red "D" about his neck. During the American Revolutionary Period, brewing, distilling, and wine making were common. The residue was fed to the animals. In 1791, the newly formed government of the U. S. imposed a tax on distilled liquor, to control the use of alcohol and to raise revenue.

Reference	Content	Learning Experience	Information
III. Alcohol in the human body	Alcohol affects the body systems and organs.	Draw and label a figure of a man showing the systems and organs affected.	
A. Absorption			Alcohol is absorbed at once, producing heat and energy.
	Alcohol is absorbed readily from the stomach and small intestines.		
			There is a temporary rise in hydrochloric acid in the stomach when you take in alcohol.
			Alcohol enters the bloodstream almost immediately, about 20% is absorbed from stomach and 80% from small intestines.
	The bloodstream will absorb most of the alcohol and serve as a vehicle by which it is carried to other cells in the body.		Alcohol is diffused and leaves the bloodstream and enters the cells.
	The liver oxidizes alcohol.		Oxidation takes place in the liver.
	Alcohol causes several reactions within body system.		

Reference	Content	Learning Experience	Information
	Nervous		The bloodstream carries alcohol to the brain where it acts as a depressant on the cerebral cortex and affects: 1. Judgment, euphoria, lessens inhibitions. 2. Concentration and memory. 3. Sense organs-vision and hearing. 4. Muscular control-clumsiness, reaction time lengthened.
	Circulatory		The immediate results from the ingestion of alcohol are: 1. Speeds up the heart. 2. Speeds pulse rate. 3. Causes rise in blood pressure. 4. Dilates blood vessels. 5. Causes a person to perspire but lowers skin temperature. 6. Causes a marked increase in urine out put. These effects last about 15 minutes. Continued ingesting of alcohol results in a depressant action of reducing these processes.

Reference	Content	Learning Experience	Information
B. Elimination	Most of the alcohol that enters the body is eliminated by kidneys via the urine.	Discuss the elimination of alcohol by the body.	Alcohol is eliminated in urine, breath, prespiration, and fecal wastes.
IV. Alcohol and Problems	People use alcoholic beverages differently.	Class discussion--excessive use of beverage alcohol may lead to problems.	Problems: 1. Auto accidents 2. Physical deterioration 3. Social problems 4. Family problems 5. Economic problems
V. Alcohol and the Family	Families use alcoholic beverages differently.		
	Alcohol may not be the real cause of problems.	Have a local court judge or physician visit and comment on the problems caused by the use and misuse of alcohol.	Deviant drinkers as a group have a large number of divorces, and they indicate that drinking was caused of marital discord. Many families use alcohol with no social problems.
	There is a direct relationship between drinking in the home and use of alcohol by children.		
A. Attitudes are learned			Children of alcoholics are likely to become excessive drinkers because: 1. Example of excessive drinking by parents. 2. Lack of parental control & poor home environment.
	Alcoholism is an illness.	Discuss professional available who can treat alcoholism.	

Reference	Content	Learning Experience	Information
			3. Personality disorders of parents predispose them to use alcohol as did their parents.
			The greatest influence on a child's decision to drink or not to drink is in the home. Teachers must remember that children in class may come from a family where alcohol is a problem.
B. Economic aspects	Alcoholic beverages are a large expense item in some family budgets.	Compare the cost of beverage alcohol and the cost of nutritious food.	Alcohol is an expensive item in some family budgets.
			Some families use wine and beer as custom or tradition and the cost is figured in with the food budgets.
			Americans spend about $10 billion a year for alcoholic beverages and about $70 billion for food a year.

ALCOHOL EDUCATION

Unit for Grades 7-8-9

INTRODUCTION TO ALCOHOL EDUCATION

Grades 7, 8, 9

This unit on alcohol education is intended to provide junior high school students with unbiased information and provide them with an opportunity to discuss the use and abuse of alcoholic beverages in the light of current knowledge and understanding.

Teachers at this age level are aware that youngsters differ greatly in emotional maturity, and it is imperative that the lesson material be adapted to the needs of individual students.

Students in grades 7, 8, and 9 are undergoing physiological and mental maturation, and are striving for identification with their peer groups and adult society. They have a need to conform and may be pressured into precocious social actions in their attempt to function as adults.

It is the teacher's responsibility to:

1. help the children understand the emotional, social, and physiological effects of beverage alcohol.
2. stimulate discussion which will promote understanding attitudes toward problems of alcohol misuse.
3. help students understand that both satisfactions and problems are derived through the use of alcohol.
4. help students understand the need for economic and legislative controls on the use of beverage alcohol.
5. help students recognize and understand that there are cultural differences in drinking patterns which may create conflicts of opinion.

GLOSSARY

1. **Abstainer**	one who does not drink alcoholic beverages.
2. **Acute alcoholism**	severe reaction against alcohol, which results in a reduction of oxygen to the brain and central nervous system.
3. **Addiction**	a physical dependence on alcohol.
4. **Alcohol rehabilitation**	therapy designed to restructure the personality of the alcoholic.
5. **Alcoholic**	a compulsive drinker who attempts to satisfy himself with beverages containing alcohol.
6. **Alcoholism**	psychological drive to drink alcohol.
7. **Chronic Alcoholic**	a compulsive drinker who constantly feels a need for beverages containing alcohol.
8. **Concentration**	concerned with the amount of alcohol found in the blood.
9. **Consumption**	the using of alcoholic beverages.
10. **Cultivated Taste**	a developed or acquired taste for alcohol.
11. **Depressant**	any agent which diminishes the activity of the brain and central nervous system.
12. **Dilation**	the enlarging of blood vessels, pupils of the eye, etc.
13. **Drunkenness**	condition caused by drinking too much alcoholic liquor.
14. **Euphoria**	exaggerated temporary feeling of well-being and contentment.
15. **External Use**	for use outside the body.
16. **Hangover**	the immediate after-effects of drinking too much alcohol.
17. **Heredity**	the sum total of characteristics passed from parent to offspring.

18. Inebriety	drunkenness.
19. Inhibitions	idea, emotion, attitude, habit, or other inner force that holds back natural impulses.
20. Intoxication	an acute mental disturbance due to large amounts of alcohol.
21. Irritating	bring (a part of the body) to an unnaturally sensitive condition.
22. Muscular Coordination	ability to control one's muscles.
23. Problem Drinker	one who does not know when to stop drinking.
24. Prohibition	legal penalty against the sale, manufacture of transportation of beverage alcohol.
25. Reaction Time	amount of time it takes to react to a certain stimulus.
26. Semi-Stupor	partial loss of the power to feel.
27. Social drinker	one who takes an occasional drink for socializing purposes.
28. Susceptible	very sensitive.
29. Temperance	being moderate in the use of alcoholic beverages.

ALCOHOL EDUCATION

JUNIOR HIGH SCHOOL
(grades 7, 8, & 9)

I. The Adolescent and Beverage Alcohol

II. The Use of Alcoholic Beverages in the United States

III. The Social Problems Associated with Beverage Alcohol

IV. Legislative Control and Economics of Alcohol

Reference	Concept	Learning Activities	Information
I. The Adolescent and Beverage Alcohol	Alcoholic beverage consumption may provide an excuse for, or cause of, unacceptable adolescent behavior.		The use of alcohol may create problems, not solve them.
	There is no alcoholic type. A sensitivity to alcohol isn't passed on from parents to children.	A teacher developed True-False test on the use and misuse of alcohol will point.	The drinking process is voluntary, and therefore normally controlled by the will.
A. Why Teen-agers Drink 1. Curiosity	Teen-agers tend to imitate adult behavior.	Have a panel discussion on: "What will make me more popular --alcohol or no alcohol?" or "Will I reach my lifetime ambition if I start drinking?"	Stress the many advantages of not drinking. There is no specific benefit to be derived from the internal use of alcohol.
	Drinking modifies inhibitions and self-restraint.		Teen-agers learn about drinking from watching adults.
	Adolescents view drinking as "adult" behavior.	Do professional and college athletes drink alcoholic beverages? Discuss this with the class. Film: It's Best to Know	Cultural background, drinking in the home, community attitude toward drinking, religious background, ethnic groups, socio-economic class all influence drinking by teenagers.
2. Peer Pressure	Teen-agers may resort to drinking as a way of meeting the unhappiness of failure.	Hold class discussion on "Why people drink and the reasons for not drinking."	Adolescents drink because they want to: 1. satisfy their curiosity

Reference	Concept	Learning Activities	Information
			2. go along with the crowd, show off 3. develop courage to conquer shyness 4. quell feeling of inferiority 5. rebel against authority 6. seek adult status
3. Adventure	Most teen-agers are unaware of the unpleasant consequences drinking can cause.		
4. Imitation of Adults			
5. Unaware of Dangers			
B. Why teen-agers do not drink		Film: Should You Drink?	Adolescents do not drink because of: 1. preference 2. parental attitudes toward drinking 3. personal conviction 4. the unpleasant taste of alcohol 5. religious conviction 6. social evils 7. a preference for driving rather than drinking 8. a desire for good health 9. a preference to avoid excesses
1. personal reasons	Many teen-agers associate drinking with non-virtuous acts.		
2. religious training			
3. parents deny them the privilege	Alcohol is classified as a narcotic drug.		
C. The problems of teen-age drinking	Drunkenness may be due to drinking too much, but this is the secondary cause. The primary cause may be highly complex.	Why do you think alcohol may affect a teen-ager more than an adult?	
1. the "now" problem--intoxication			
2. the "later" problem--alcoholism	Alcoholism is considered a disease-a result of emotional stresses.	Pamphlet study: "It's Best To Know About Alcohol."	The problem of adolescent drinking is intoxication not alcoholism.

Reference	Concept	Learning Activities	Information
	Adolescent drinkers with emotional conflicts are potential alcoholics.		Drinking by teen-agers may cause traffic accidents and other serious involvements. Alcohol affects teen-agers more because of body weight--they are often smaller, so alcohol is in higher concentration in their bodies.
D. Effects of alcohol	Alcoholic beverages inhibit muscular coordination and judgment.	Film: Alcohol in the Human Body. Have students look up research studies in the library and report on the effects of alcohol on muscular coordination (Drunkometer tests). Filmstrip: Alcohol: Fun or Folly?	Effects of alcohol on the person are: silly actions, weak will, poor memory, foolish talk, erratic muscular activity, and stupor.
II. The Use of Alcohol in the United States	The use of beverage alcohol is widespread in America.		Studies show: 65% of the adult population are users of beverage alcohol. In total per capita consumption of beverage alcohol, USA ranks 8th in the world. France, Italy, Switzerland, Australia, West Germany, Belgium, New Zealand all consume more per capita.

Reference	Concept	Learning Activites	Information
			Americans spend 10 to 11 billion dollars a year on alcoholic beverages.
			75% of the men drink alcoholic beverages as compared to 56% of the women.
			Most drinkers are in the 29-40 age group.
	People in this country are free to make their own choice with regard to the use of alcohol.		One poll shows a sharp increase in the number of women drinking. This may be due to greater economic welfare, greater freedom, more association with men in business and recreation.
A. Culture Variables	There are many varying points of view on the use and misuse of alcohol in the U.S.	Discuss the main groups and subgroups that make up our society. Do they all think alike? Do they think differently about alcoholic beverages? Analyze TV and radio commercials for alcoholic beverage advertising. Discuss these in class.	Varying views on the use of alcohol: 1. Some families say beer and wine are all right, but liquor is bad. 2. Advertising glamorizes the use of alcohol. 3. Some families drink beer and wine at meals, and others would not have these beverages in the house.

Reference	Concept	Learning Activities	Information
			4. One view: "If I drink, my character will be damaged." The other view: "Alcohol is not bad and will not affect my character." 5. Differences exist on the permissible age of drinking.
		Panel discussion after research on a specific topic such as: "What are the dangers of drinking?"	6. Communities differ on the use of alcohol. 7. In our culture some male teen-agers think they have to prove their manliness by drinking.
III. The Social Problems Associated with Beverage Alcohol		Vocabulary Study: Define: problem drinker, abstainer, social drinker, drunkenness (inebriety), acute alcoholism, alcohol poisoning.	TV stresses good life with alcohol. Stress that abstinence and moderate drinking are accepted social customs.
A. Industry	Excessive use of alcohol may affect the ability to hold a job. Accident rates increase when workers have been drinking.	Interview a social welfare department representative to seek a relationship between alcohol and people on public assistance who cannot retain a job.	Alcohol may aggravate a social problem and lead to occupational dismissal. Efficiency declines with alcohol in the bloodstream. Commercial airline pilots must abstain from alcoholic drinks for at least 24 hours before flying.

Reference	Concept	Learning Activities	Information
		Some industrial concerns have alcoholism rehabilitation programs for employees. How does alcohol affect the worker on the job?	Industry is assisting with the rehabilitation of problem drinkers. Du Pont, Bell Telephone, Eastman Kodak, Consolidated Edison of N.Y. are operating effective programs.
B. Driving and Alcohol	Alcohol affects driving ability. Small amounts of alcohol decrease a person's ability to concentrate. Hearing, sight, and touch are impaired by alcohol. Muscular control and efficiency decrease with alcohol intake and reaction time is increased.		
		Filmstrip: Drinking, Drugs, Driving, 30 F, McGraw-Hill Film: To Your Health Collect newspaper clippings for class use on accidents involving alcohol.	The social drinker who will not admit that his inhibitions, coordination, and judgment are impaired may have many accidents. Alcohol has a sedative effect and is responsible for many accidents.

Reference	Concept	Learning Activities	Information
		Have State police speak to class and demonstrate chemical test for intoxication.	Failure of a N.Y. State motorist to submit to an alcohol breath test can result in revocation of driver's license.
		Discuss statistics and charts on accidents due to driving under the influence of alcoholic beverages. Are young people involved in these accidents? What percentage?	Blood alcohol levels of 0.04% are definitely associated with increased accident involvement. The probability of an accident increases rapidly from 0.08% to an extremely high rate above 0.15%.
			Drivers with blood alcohol levels over 0.08% have more single accidents, more severe accidents, and more expensive accidents.
		Write to the Motor Vehicle Bureau for information on alcohol and driving proficiency.	Any degree of alcohol will affect clearness of intellect and control.
		Film: None for the Road	Blood alcohol concentration below .05 percent; adult person is not under the influence of alcohol. Blood alcohol levels between .05% and .15% is admissible evidence. (National Safety Council).

Reference	Concept	Learning Activities	Information
			In New York State, drivers under 21 with 0.01 percent (and above) of alcohol in blood can lose their licenses to drive.
	The chemical test for intoxication is reliable and legal.		Chemical test methods can be obtained from blood, urine, saliva, breath,etc. Breath tests are of alveolar air--chemical analyses can be obtained in 10 minutes.
C. Alcohol and Crime	Crime may be an outcome of alcohol misuse.	Survey newspapers and note the disposition of cases where a person has committed a crime under the influence of alcohol.	Seventy-five percent of police time is spent handling problem drinkers. Excessive drinkers commit crimes against people rather than property. More alcoholics and excessive drinkers get in trouble with the law than do moderate drinkers.
		Invite a social worker to discuss the relationship of alcohol to various societal problems.	A large percentage of persons imprisoned for serious crimes have had a history of excessive drinking.

Reference	Concept	Learning Activities	Information
			Criminologists agree that excessive drinking is not the prime cause of crime.
IV. Legislative Control and Economics of Alcohol	There are federal and state laws controlling alcohol transportation and use.	Library assignment to gather laws, resolutions on drinking, for a class discussion.	The Prohibition Movement in the U.S. was against the manufacture, sale, or transportation of alcoholic beverages.
			The Sons of Temperance was organized in New York City in 1842; Independent Order of Good Templars in 1850; National Prohibition Party in 1870; WCTU and Anti-Saloon League were most highly organized and influential--tried to lobby for prohibition. Anti-Saloon League is credited with passage of the 18th Amendment.
A. National Legislation	Many counties, cities, and states as well as the nation, passed prohibition laws.	Develop a panel discussion: Topic: Prohibition Did Not Work in the U.S. Because.......	Fourteen states passed prohibition laws, starting with Maine in 1851. They all were declared unconstitutional except Maine's. Due to the influence of prohibitionists many localities began to "go dry."

Reference	Concept	Learning Activities	Information
		Research: What are some specific regulations related to drinking in Arizona?	In 1913 Congress passed the Webb-Kenyon Law. This law made it illegal to ship liquor from a wet to a dry state.
			In 1917 the Jones-Randall Bill passed. The mails cannot be used to send liquor circulars to people in dry areas.
			Sept. 8, 1917 no liquor could be manufactured legally.
			May 1, 1919 no more beer manufactured legally.
			July 1, 1919 no more liquor sold, no saloons could operate legally.
B. Laws, Acts, & Amendments			18th Amendment was passed to make entire U.S. dry; to go into effect on January 16, 1920.
			In 1919 the Volstead Act carefully defined alcoholic drinks.
			National Prohibition 1920-1933.
			Evasion of the law was widespread.

	Reference	Content	Learning Activities	Information
				In 1933, F. D. Roosevelt ran for President and promised to repeal the 18th Amendment.
			Look up the 18th Amendment and have a class discussion on why it was repealed by the 21st Amendment to the Constitution.	Repeal passed by 21st Amendment on Ratification by 36 states. Two systems of alcoholic beverage control by the states are now used: Open-license system as in New York State-operated stores in 17 states In 36 states, local optional exists
C.	Taxation	The government may be trying to control the use of alcoholic beverages by taxation. Taxation on alcoholic beverages provides revenue for Federal, State, and Local governments.		
D.	Minors and State Controls	There are legislative and administrative controls over liquor sold in the United States. These vary from state to state.		Every state has laws governing the sale of alcoholic beverages to minors. No uniformity in laws.

Reference	Concept	Learning Activities	Information
			In most states the legal drinking age is 21 years of age or older. In New York State it is 18 years of age or older. In South Carolina, Ohio, Kansas, West Virginia, beer may be bought at 18. In North Carolina a married person at 17 may buy alcohol but an unmarried person must be 21 or older.
			In Montana, alcohol may be purchased by an individual under 21 if prescribed by a doctor, or if it is to be used for sacramental purposes.
		Class discussion on the state laws and regulations concerning the sale of alcoholic beverages to minors.	Many states have laws against the sale of alcoholic beverages to known inebriates.
			Research is needed to determine whether the legal controls work.

ALCOHOL EDUCATION

Unit for Grades 10 - 11 - 12

INTRODUCTION TO ALCOHOL EDUCATION

Grades 10, 11, 12

Alcohol education shares the aims and objectives of all education.

OUTCOMES:

1. To gain objective, unbiased, scientific information concerning alcohol, its uses, and its effects on the individual and society.
2. To seek accurate information so that they can explore their own feelings and attitudes about drinking.
3. To develop a sense of responsibility for one's individual welfare and that of others in the proper use of alcohol.
4. To develop insight concerning their behavior in social situations involving the use of alcoholic beverages.
5. To develop awareness of the medical problem caused by, or associated with, the misuse of alcohol.

GLOSSARY

1.	Addiction	The state of being devoted to some practice such as taking drugs.
2.	Alcoholism	An illness due to prolonged excessive drinking of alcohol.
3.	Alcoholics Anonymous	An organization whose members are all alcoholics. Drinking is controlled among members by a group therapy approach.
4.	Atrophy	The arresting of the development of certain body parts.
5.	Cirrhosis	Fibrosis with hardening caused by excessive formation of connective tissue followed by contraction; occurs in the liver of the alcoholic.
6.	Delirium tremens	A violent delirium, induced by excessive and prolonged use of alcoholic liquors.
7.	Depressant	A drug that lowers the rate of activity of an organ or of the whole body. Alcohol is a depressant.
8.	Dilation	To enlarge or increase in diameter.
9.	Euphoria	A feeling of well-being.
10.	Fermentation	Chemical change giving off bubbles of gas.
11.	Gastrointestinal	Pertaining to the stomach and the intestines.
12.	Metabolism	The process whereby certain materials are built up and others are broken down in the body; the life processes.
13.	Paranoid	Psychosis characterized by fantasies in which the patient thinks he is being persecuted or is a great hero.
14.	Pellegra	A disease due to lack of vitamin B, especially niacin, in the diet.

15.	Psychotherapy	Psychological treatment of mental illnesses and emotional disturbances.
16.	Rehabilitation	Helping patients back to useful lives.
17.	Socioeconomic	Relating to social and economical status.
18.	Tranquilizer	Drug used to relieve tension.

SENIOR HIGH SCHOOL UNITS

(Grades 10, 11, & 12)

I. Alcohol and Mental Health
II. Physiological Effects of Alcohol
III. The Psychological Effects of Alcohol
IV. Alcoholism - A Medical Problem
V. Other Disease Forms Associated with Alcoholism
VI. Rehabilitation and Treatment
VII. Research Agencies and Prevention of Alcoholism

REFERENCE	MAJOR UNDERSTANDINGS AND FUNDAMENTAL CONCEPTS	SUGGESTED TEACHING AIDS AND LEARNING ACTIVITIES	SUPPLEMENTARY INFORMATION FOR TEACHERS
I. Alcohol and Mental Health	A mentally healthy person does not attempt to escape reality by the excessive use of alcohol.	Discussion Topics and Questions: Have a class discussion on the emotionally mature and immature individual. Note the characteristics of each. List some criteria for emotional maturity. Why do some people drink alcohol when they know they are becoming alcoholic? List ways of reducing tension without the use of alcohol. List the pros and cons of drinking by teen-agers. Why do some teen-agers think they must drink to be popular? Why are teen-agers affected by alcohol more than adults?	There has never been a time in history when man has had no fears or threats to his security. Today as in the past, mature individuals accept responsibility, recognize strengths and weaknesses, and face day-to-day problems realistically. Satisfactory relationships are formed in social, business, and moral accomplishments. The mentally healthy individual sets realistic goals and is secure in his attempt to progress toward these goals. Mentally healthy individuals can satisfy their basic needs without alcohol and realize that interpersonal relationships are important to sound adjustment. By early high school, students will have developed a sense of identity. Some are seeking status and approval and may be trying to overcome shyness and timidity.
	Varied professionals as well as state and local agencies are available to help people with emotional problems.	What state and local agencies are available to help the problem drinker?	
II. Physiological Effects of Alcohol		Film: Alcohol and the Human Body.	

REFERENCE	MAJOR UNDERSTANDINGS AND FUNDAMENTAL CONCEPTS	SUGGESTED TEACHING AIDS AND LEARNING ACTIVITIES	SUPPLEMENTARY INFORMATION FOR TEACHERS
A. Stomach	It is known that alcohol affects the body. Some parts of the body may be more susceptible, and some diseases have a high association with the use of alcohol.	Draw and label the organs affected by alcohol in the human body and give the effect on each. Discussion Questions:	Stomach: Alcohol increases the flow of digestive fluids in the stomach. (If a person is suffering with stomach ulcers, the irritation would be harmful.) Irritation of the stomach lining with accompanying gastritis and vomiting can occur if alcohol is taken in large doses over a short period of time.
B. Kidneys		Why does a person drinking on an empty stomach "feel" alcohol quicker and to a greater degree than one who has eaten?	Increased urination is caused by alcohol reacting on the pituitary gland which secretes a hormone that controls action of the kidney.
C. Glands		What foods slow the absorption of alcohol in the system?	Alcohol cannot damage sex glands because it is in dilute form.
D. Liver		Why can most men drink more than most women? Would most doctors allow patients with TB, cancer, liver ailments, or mental illness to drink moderately? Why? How would excessive alcohol affect your stomach, kidneys, pancreas, liver, heart, circulation, and reasoning ability?	Alcohol is modified by the liver. The enzyme dehydrogenase converts alcohol to acetaldehyde and then to acetic acid. The liver may become swollen in severe intoxication and may be tender. Cirrhosis is six times as prevalent in heavy drinkers as in the general population. Water balance is upset. The H_2O inside cells changes with the intake of fluids or output of urine and sweat. A feeling of thirst develops.

REFERENCE	MAJOR UNDERSTANDINGS AND FUNDAMENTAL CONCEPTS	SUGGESTED TEACHING AIDS AND LEARNING ACTIVITIES	SUPPLEMENTARY INFORMATION FOR TEACHERS
E. Heart and Circulation	The heart and circulation are affected by alcohol.	How does alcohol affect the heart rate and circulation?	Distilled spirits may make the heart beat faster and cause the skin to feel warm. The faster heart beat increases blood flow and the effect may be to raise the blood pressure for a short time before it fails due to sedation. The eyes may become "bloodshot" by an increase in blood flow. Moderate amounts of alcohol do not cause high blood pressure, heart disease, or arteriosclerosis.
F. Brain and Senses	Alcohol affects the brain and its normal functions.	What effect does alcohol have on doing a complex problem?	Alcohol's reaction on the central nervous system seems to follow a regularly descending pattern, the most intricate structure of the brain is affected first, cortex, then the cerebellum, spinal cord, and medulla oblongata. The central nervous system which controls judgment, self criticism, and socially acquired inhibitions is affected first. The concentration of alcohol in the blood bears a direct relation to that in the brain, the examination of the blood offers an accurate index of the brain's alcohol content. Such central

REFERENCE	MAJOR UNDERSTANDINGS AND FUNDAMENTAL CONCEPTS	SUGGESTED TEACHING AIDS AND LEARNING ACTIVITIES	SUPPLEMENTARY INFORMATION FOR TEACHERS
			nervous system functions as judgment, self criticism, and inhibition control are the first to be lost during the progression of intoxication.
			Nerve impulses to muscles are interfered with--handwriting becomes difficult, speech and muscular coordination impaired. Visual acuity is next to go, diplopia (double vision) is common. Sensitivity to light is lost. Taste and smell are also impaired.
III. The Psychological Effects of Alcohol	Some people use alcohol to escape frustrating situations.	Read current events from clippings related to the problem of alcohol.	Alcohol is a depressant; it dulls the attention, removes inhibitions, weakens the will power, alters judgment, and distorts sensibilities.
	A good self-image helps the individual maintain an acceptable pattern of alcohol use.	Interview a specialist from the health department and find out what local services are available for the person with an alcohol problem.	The immature individual finds alcohol appealing; usually, the more immature the individual, the greater the alcohol appeals. He is insecure, considers himself a failure, and uses alcohol to bolster his ego. He does not face problems, but with alcohol he daydreams or lets the imagination take over. He has to make no descisions and for him responsibility does not exist. He can escape to childhood and boast of his powers. He may rationalize to justify his

REFERENCE	MAJOR UNDERSTANDINGS AND FUNDAMENTAL CONCEPTS	SUGGESTED TEACHING AIDS AND LEARNING ACTIVITIES	SUPPLEMENTARY INFORMATION FOR TEACHERS
IV. Alcoholism - A Medical Problem			actions and alcohol seems to make him feel happier.
A. Definition	Alcoholism is difficult to define.	Research: What is the World Health Organization doing about alcoholism? World Health Magazine, January 1966 discusses this in detail.	Alcohol in moderate amounts may reduce some anxieties and fears.
		Review text materials on alcoholism and the many definitions of the illness.	"Any form of drinking which in its extent goes beyond the traditional and customary dietary use or the ordinary compliance with the socail drinking customs of the whole community concerned, irrespective of the etiological factors leading to such behavior and irrespective also of the extent to which such etiological factors are dependent upon heredity condition or acquired physiopathological and metabolic influences." (World Health Organization)
B. Physical Conditions Associated with Alcoholism	Excessive use of alcohol may create detrimental physical conditions.	Discussion Questions: Why are most alcoholics malnourished? How is poor nutrition related to the excessive use of alcohol?	

REFERENCE	MAJOR UNDERSTANDINGS AND FUNDAMENTAL CONCEPTS	SUGGESTED TEACHING AIDS AND LEARNING ACTIVITIES	SUPPLEMENTARY INFORMATION FOR TEACHERS
C. Pellagra	Pellagra is on the decrease in the United States and is rare in some areas.	Discuss class reports on "Deficiency Diseases."	Pellagra (Niacin Deficiency). This condition is due to deficiency of niacinamide. The symptoms are: nervous manifestations, weakness, vertigo, insomnia, skin eruptions, severe burning sensation in mouth, and the tongue bright red and denuded. Pellagra may occur in semi-tropical areas; such as the southern United States. It is more prevalent when food supply is limited in variety and low in animal protein. There is a great reduction in the death rate today because of effective hospital treatment. May be caused by substitution of alcoholic drinks for food and a deficiency of the "B" vitamins. These changes occur also: depression, fear, confusion, impaired memory, skin lesions, gastrointestinal disturbances, neurologic symptoms. Skin looks like a severe sunburn, then gets rough and scaly. Gastrointestinal--alternate constipation and diarrhea. The mouth and tongue may be irritated.

REFERENCE	MAJOR UNDERSTANDINGS AND FUNDAMENTAL CONCEPTS	SUGGESTED TEACHING AIDS AND LEARNINGS ACTIVITIES	SUPPLEMENTARY INFORMATION FOR TEACHERS
		Discuss the problem of physical condition related to excessive use of alcohol.	Neurologic effect--victims are lethargic.
D. Cirrhosis of the Liver	The liver is affected by the misuse of alcohol. Experts on liver disease need to learn more about how the many hundreds of liver enzymes function in the body.	What is cirrhosis of the liver? Why does it occur in alcoholics? How does the liver break down alcohol?	Cirrhosis of the liver may be caused by malnutrition and may be aggravated by alcohol. Experimentally, the condition can be produced by a diet deficient in choline or an amino acid (methionine): Choline is a lipotropic agent and, if lacking, fat accumulates in the liver followed by an increase of connective tissue. Serious impairment of liver function ensues. Cirrhosis of the liver is eight times more prevalent in alcoholics than in the general population.
E. Pneumonia	Other physical conditions and diseases are prevalent in both the heavy drinker and the alcoholic.	Class discussion: Why should a person with pneumonia or tuberculosis refrain from heavy drinking?	The heavy drinker and alcoholic is highly susceptible to pneumonia because of poor general health. Pneumonia occurs in alcoholics because resistance is low. It is caused by poor nutrition and lack of good health practices. The alcoholic does not take adequate precautions during extreme weather, etc.

REFERENCE	MAJOR UNDERSTANDINGS AND FUNDAMENTAL CONCEPTS	SUGGESTED TEACHING AIDS AND LEARNING ACTIVITIES	SUPPLEMENTARY INFORMATION FOR TEACHERS
F. Tuberculosis	Many physical conditions are associated with chronic alcoholism.		The alcoholic patient has a TB rate 31 times the general population.
G. Acute Pancreatitis	Organs of the body are sometimes irritated by alcohol.	Class discussion: What effect could excessive use of alcohol have on the pancreas?	Inflamation of pancreas--overindulgence in food or alcohol may produce pancreatitis. Necrosis of pancreatic tissues with hemorrhage may result. Nausea or vomiting may result, and sometimes jaundice.
H. Polyneuritis or Polyneuropathy	Alcohol affects the nervous system.		Polyneuritis involves many nerves and affects the peripheral nervous system. Weakness, numbness, partial paralysis, and pain in the legs are symptoms. Motor, reflex, and sensory reactions are lost in most cases. Recovery is very slow. Vitamin "B" is used to relieve symptoms. It may affect walking for a year or more.
V. Other Disease Forms Associated with Alcoholism	Many psychological problems and conditions result from the misuse of alcohol.	Film: Alcoholism Have reports made on outside reading of accounts and experiences of alcoholics.	Many people who consume alcohol over a long period suffer personality disintegration ranging from impairment of the emotions and control to noticeable dementia.
A. Simple Chronic Alcoholic Deterioration			

REFERENCE	MAJOR UNDERSTANDINGS AND FUNDAMENTAL CONCEPTS	SUGGESTED TEACHING AIDS AND LEARNING ACTIVITIES	SUPPLEMENTARY INFORMATION FOR TEACHERS
		Have a speaker from Southern Arizona Mental Health Association discuss alcohol and its relationship to mental health.	The toxic effects are important, but the real damage is caused by avitaminosis. In some cases, a chronic nervous degeneration takes place. The cortex of the frontal lobes may show progressive atrophy.
	There are specific signs and symptoms of alcoholism.	Report on some of the danger signs of alcoholism. Write for materials from National Institute of Mental Health, U.S. Public Health Service, Bureau of Alcoholism, Department of Mental Hygiene.	A person with the symptoms of alcoholism has blackouts, hides drinks, cannot overcome the desire to drink, sneaks drinks, will drink anything to get intoxicated. His behavioral changes are noticeable. He is frequently intoxicated days at a time and he loses time from work because of alcohol. He frequently abilis about drinking.
B. Pathologic Intoxication	The psychological disease forms associated with the misuse of beverage alcohol may cuase pathological intoxication.		The onset of pathologic intoxication is sudden. The person's consciousness is impaired. He is confused, disoriented, suffers from illusions; hallucinations and delusions are present. He exaggerates activity, is impulsive and aggressive to the point of destructiveness. Emotional disturbances are profound and may consist of rage, depression, and sometimes attempted suicide. After disorder, sleep occurs. On awakening, there is amnesia for the period.

			Epilepsy may be released by alcohol in predisposed persons.
C. Delirium Tremens	Delirium tremens can be a very serious problem with the possibility of death.	Discussion Questions: What is delirium tremens? Is it serious? Why? Can it be fatal? What causes DTs? How does the person act? Does he have loss of memory? Have the students form a crossword puzzle using the related facts--vocabulary they have been given in connection with the unit. Examples: depressant fermentation pellagra delirium tremens liver cirrhosis tranquilizer alcoholism metabolism Class discussion of article Treat Delirium Tremens-Science Newsletter-February 12,1965.	Delirium tremens is an acute psychosis that may develop from overuse of alcohol. Some pshchiatrists think it may be brought on by withdrawal from alcohol. It may be a metabolic disturbance brought on by liver malfunction, disturbed water balance, suboxidation of the brain, and nutritional deficiency. DTs usually occur after 30 years of age. The delirium is sometimes preceded by restlessness, irritability, disturbed sleep with terrifying dreams. Visual hallucinations are common--spots may appear, and strange shapes are imagined, terror is common. Tactile hallucinations and olfactory hallucinations are also present. The mood may be one of fear and terror. Sleep is impossible, consciousness is clouded. The person has tremor, is very tense; pulse is rapid but weak; temperature is elevated. The skin is moist, and perspiration is apparent.

REFERENCE	MAJOR UNDERSTANDINGS AND FUNDAMENTAL CONCEPTS	SUGGESTED TEACHING AIDS AND LEARNING ACTIVITIES	SUPPLEMENTARY INFORMATION FOR TEACHERS
			Delirium tremens usually lasts from 4 to 5 days--or death may occur from heart failure or pneumonia.
D. Korsakoff's Psychosis (syndrome)	Nutritional deficiencies can be associated with psychological problems.	Library Assignment: List the many nutritional deficiencies caused by or associated with alcoholism. Do you think each one would affect your health? Why?	Korsakoff's Syndrome is characterized by memory defect, amnesia, disorientation, and falsification of memory. There is some evidence that these symptoms do respond to thiamine. Damage to the nervous system may be structural rather than biochemical and thiamine deficiency for a long time may be a responsibile factor.
E. Alcoholic Paranoid Trends	Alcoholism is a leading public health problem.	Look up and list the leading public health problems in the U.S.A. today.	Alcoholic paranoid trends may develop after prolonged use of alcohol. Sometimes voices are imagined, and they urge the person to do something drastic. He is in constant fear and may commit suicide. Sometimes the person will appeal for help or arm himself. This differs from DTs as the person's consciousness remains clear and many times schizophrenia may develop.
F. Wernicke's Syndrome	Cause of Wernicke's Syndrome is faulty metabolism.	Discussion Questions: What causes Wernicke's Syndrome? Is it serious? Why or why not? Is it a metabolic disease?	Wernicke's Syndrome was described in 1881 as pseudoophthalmoplegia (paralysis of eye muscles), apathy, ataxia, memory loss, confabulation, and coma. Wernicke's Syndrome is associated with thiamine deficiency and niacin deficiency.

REFERENCE	MAJOR UNDERSTANDINGS AND FUNDAMENTAL CONCEPTS	SUGGESTED TEACHING AIDS AND LEARNING ACTIVITIES	SUPPLEMENTARY INFORMATION FOR TEACHERS
		Does it affect the vision?	Sometimes it is referred to as Wernicke's "encephalitis." The person usually goes through delirium.
			The condition is seen in chronic alcoholics. The person may feel weak, easily fatigued, irritable, quarrelsome, forgetful, and depressed.
VI. Rehabilitation and Treatment	Alcoholism is a serious problem and requires combined efforts.		
A. Nutrition	Vitamins and good nutrition are used in the treatment of the alcoholic		A change in diet to supply nutrients helps in the treatment so that regeneration of some liver tissue may take place.
			Nutritional elements can be given intravenously. Ascorbic acid and foods rich in Vitamin"B" (milk, eggs, fruit, and meat) should be eaten. Niacin and multiple vitamins are given.
			Sometimes thiamine chloride is added to the diet each day.
B. Psychotherapy	Many types of psychotherapy are used as treatments of choice for the alcoholic.	Define and tell how each may be used in the treatment of the alcoholic: Hypnosis Psychiatry Psychoanalysis Group therapy Psychotherapy	The approach to the cure and rehabilitation of the alcoholic must be multidimensional and multidisciplinary since the original cause is usually multifactorial.

REFERENCE	MAJOR UNDERSTANDINGS AND FUNDAMENTAL CONCEPTS	SUGGESTED TEACHING AIDS AND LEARNING ACTIVITIES	SUPPLEMENTARY INFORMATION FOR TEACHERS
			Group psychotherapy is being used more often. The alcoholic may accept treatment in a group setting.
C. Drug Therapy	Drugs are being used increasingly in the treatment of alcoholism.	Requests sent to drug companies may obtain information on drugs used in the treatment of alcoholics.	A new chemical is under study--citrated calcium carbamite, which affects the person like disulfiram, but does not have a lasting effect. Tranquilizers are sometimes used to relax the patient. Chlorpromazine is used to relieve symptoms of restlessness. Meprobamate is given to control vomiting, it relaxes the patient and reduces anxiety and tensions. Insulin is sometimes used to speed up the metabolism of alcohol; but insulin may cause convulsions. Disulfiram or Antabuse is used to treat the alcoholic. It was first noted in 1948 in Europe. Discomfort develops after alcohol is consumed. The discomfort may be excretion of acetaldehyde. It must be administered prior to drinking. The patient is affected by headache, tachycardia, dizziness, nausea, chest pains, vomiting. He does not care to drink.

REFERENCE	MAJOR UNDERSTANDINGS AND FUNDAMENTAL CONCEPTS	SUGGESTED TEACHING AIDS AND LEARNING ACTIVITIES	SUPPLEMENTARY INFORMATION FOR TEACHERS
			Halfway house or recovery house organizations came into being around 1950.
	Private and public agencies exist to assist the alcoholic in remediation of the condition.		Federal Government V. A. Hospitals Ul S. Marine Hospitals National Institute of Mental Health Grants for research, conferences, and semonstration projects Voluntary Organizations The National Council on Alcoholism Professional Organizations A.M.A. Committee on Alcoholism The American Psychiatric Assn. North American Assn. of Alcoholism Program The American Psychological Assn.
E. Alcoholics Anonymous	Psychological-emotional treatment and rehabilitation are available.	Film: I Am an Alcoholic Study the various forms of treatment for problem drinkers. What are the limitations of each? Have a selected speaker from A.A. address the class.	Alcoholics Anonymous Established in 1935 in Akron, Ohio, the A.A. program is social-religious and uses a group therapy approach. It gives the person a sense of belonging. Group meetings are held frequently in churches and allow alcoholics to feel they are accepted.

REFERENCE	MAJOR UNDERSTANDINGS AND FUNDAMENTAL CONCEPTS	SUGGESTED TEACHING AIDS AND LEARNING ACTIVITIES	SUPPLEMENTARY INFORMATION FOR TEACHERS
			It should be emphasized that this information is listed as a sample of what one organization does. Other methods may be equally effective.
		Class discussion: Is A.A. primarily a religious program? Why or why not? What success has this organization had?	Twelve Steps of Alcoholics Anonymous 1. We admitted that we were powerless over alcohol-that our lives became unmanageable. 2. Came to believe that a Power greater than ourselves could restore us to sanity. 3. Made a decision to turn our wills and our lives over to the care of God as we understood Him. 4. Made a searching and fearless moral inventory of ourselves. 5. Admitted to God, to ourselves, and to other human beings the exact nature of our wrongs. 6. Were entirely ready to have God remove all these defects of character. 7. Humbly asked Him to remove our shortcomings.

REFERENCE	MAJOR UNDERSTANDINGS AND FUNDAMENTAL CONCEPTS	SUGGESTED TEACHING AIDS AND LEARNING ACTIVITIES	SUPPLEMENTARY INFORMATION FOR TEACHERS
			8. Made a list of all persons we had harmed and became willing to make amends to them all.
			9. Made direct amends to such people whenever possible, except when to do so would injure them or others.
			10. Continued to take personal inventory and when we were wrong, promptly admitted it.
			11. Sought through prayer and meditation to improve our conscious contact with God as we understood Him, praying only for knowledge of His will for us and the power to carry that out.
		Evaluate the many treatment methods used in the rehabilitation of the alcoholic. What are some limitations of each?	12. Having had a spiritual awakening as the result of these steps, we tried to carry this message to alcoholics, and to practice these principles in all our affairs.
1. Al-Anon	New groups are expanding to assist relatives of alcoholics.		Al-Anon Family groups-wives of alcoholics-functions like A.A. to lend mutual support and discuss adjustment problems.

REFERENCE	MAJOR UNDERSTANDINGS AND FUNDAMENTAL CONCEPTS	SUGGESTED TEACHING AIDS AND LEARNING ACTIVITIES	SUPPLEMENTARY INFORMATION FOR TEACHERS
2. Alateen			Alateen Children of A.A. members meeting to gain an understanding of the illness and how alcohol affects the body.
G. Personnel			Social workers, clergymen, medical doctors, nurses find it difficult to work with alcoholics. Professional schools offer little training in the field. New York State is making strong efforts in the field of research relative to the causes of alcoholism.
VII. Research Agencies and Prevention of Alcoholism	Develop awareness that research is being done by many individuals and organizations	Discussion Questions: What causes alcoholism? Why does one heavy drinker become an alcoholic and another does not? What part does heredity play in alcoholism? How much of a role do ethnic backgrounds play in alcoholism? How do socioeconomic backgrounds contribute to the excessive use of alcohol? What can we expect of new drug therapy?	

REFERENCE	MAJOR UNDERSTANDINGS AND FUNDAMENTAL CONCEPTS	SUGGESTED TEACHING AIDS AND LEARNING ACTIVITIES	SUPPLEMENTARY INFORMATION FOR TEACHERS
A. Agencies	Help is available.	Outline the function of the many agencies in the field of alcoholic rehabilitation. Discussion: Topic-People can now get help for a drinking problem.	The Federal Government provides treatment for veterans and members of the armed forces. National Institutes of Health--research and research projects. Department of Health, Education, and Welfare--oversee and administer grants for educational projects, conferences, demonstration programs.
B. Voluntary and Official Agencies	Voluntary and official agencies offer services, education and help.	Visit an agency in your community and inquire as to their function, duties, and responsibilities.	Rutgers School of Alcohol Studies--Publications, education, research. State Program--The New York State Department of Mental Hygiene program involves both inpatient and outpatient treatment centers, community information, and education services, research and training. The National Council on Alcoholism--a voluntary health agency, main function is education of general public; also to remove stigma, promote the concepts of alcoholism as a disease and expand treatment facilities.

REFERENCE	MAJOR UNDERSTANDINGS AND FUNDAMENTAL CONCEPTS	SUGGESTED TEACHING AIDS AND LEARNING ACTIVITIES	SUPPLEMENTARY INFORMATION FOR TEACHERS
	Scientists working for official agencies like National Institute of Health are conducting research on the problems associated with alcohol consumption.		Professional Organizations--AMA The Committee on Alcoholism keeps physicians informed. American Psychiatric Association American Psychological Association A.A. A fellowship of alcoholics, supplies information, distributes literature. Salvation Army--spiritual aid, food and lodging. This organization was a pioneer on this field.
C. Prevention	Educational programs need to be expanded.	Comment on the educational programs in your community developed to help prevent alcoholism. Where may a person seek help in your community?	The cause of alcoholism is not known--it may be metabolic failure, psychologically caused, sociologically or psychologically oriented. We know it is an illness so it can be treated using many techniques. Total prevention is not possible today because of meager knowledge in this area. Educational programs and knowing the facts can help prevent the misuse of alcohol.
D. Research	Many areas of research are under exploration.	Cite some of the research noted in library readings.	What causes a person to crave alcohol needs to be explored. Why does one person become a victim of alcohol and another does not?

REFERENCE	MAJOR UNDERSTANDINGS AND FUNDAMENTAL CONCEPTS	SUGGESTED TEACHING AIDS AND LEARNING ACTIVITIES	SUPPLEMENTARY INFORMATION FOR TEACHERS
			There is no known single cause of alcoholism.
	Attitudes are difficult to research.		There is a need to study the attitudes toward the use of alcohol.
			What part do hormones play in the treatment of the alcoholic? Hormones seem to stimulate enzyme action, and the enzyme uses up the alcohol. The area needs additional research.
	Studies need to be done on home, industrial, and traffic accidents where alcohol is a factor.		How many people die in accidents related to the use of alcohol?
	Cirrhosis is a complicated medical problem.		Why do some of the heaviest drinkers have good livers and others have cirrhosis? Some liver cells are damaged by repeated exposure to alcohol, but some unknown factors are missing. This is under study.
	Alcohol disturbs cell functions.		What biochemical changes occur in the brain of an alcoholic? It appears as though cortical cells show atrophy and something happens to the cytoplasm.
			Can alcohol harm the fetus? This area needs research. The mother's health may be run down, yet the child may not be harmed.

REFERENCE	MAJOR UNDERSTANDINGS AND FUNDAMENTAL CONCEPTS	SUGGESTED TEACHING AIDS AND LEARNING ACTIVITIES	SUPPLEMENTARY INFORMATION FOR TEACHERS
	Cirrhosis may be associated with the consumption of alcohol but is also a factor in hepatitis.		Do glandular changes occur with cirrhosis of the liver? Yes, studies show some males may develop abnormalities because of hormonal action.
	In summary--research is needed in the following: 1. pharmacology 2. psychology 3. attitudes fostered by cultural background 4. attitudes fostered by social peers 5. physiological differences in individuals		Research is being done in the field of mental health and the misuse of alcohol. Some researchers believe alcoholism begins in the cradle--over-mothering, insecurity, and a means of escape offered by alcohol are responsible for many problems associated with the use of alcohol. Guilt feeling develops in the alcoholic also.

ALCOHOL

BIBLIOGRAPHY
(Teacher Material)

Notes on Alcohol Education For Teachers, State Department of Education, Landing, Michigan.

Teen Age Drinking , Thomas Y. Crowell, U.S. Department of Health, Education, and Welfare, Washington, D.C.

ALCOHOL

BIBLIOGRAPHY
(Filmstrip)

Alcohol: Fun or Folly + record + Script + Booklet.
Texas Alcohol Narcotics Education.

Drinking Drugs, and Driving, McGraw-Hill. 30 frames.

Tell It Like It Is, Texas Alcohol, Narcotics Education,

Series of four Filmstrips, three records , script and booklets.

1. Glue Sniffing
2. Let's Talk about Goofballs and Pep Pills.
3. LSD--Trip or Trap?
4. Why Not Marijuana?

ALCOHOL

BIBLIOGRAPHY
(Film)

Alcohol and the Human Body (EbF-1949) 15 minutes, Black and White - SSAV - ASDH - U of A - Sh-c-ad

Alcohol in the Human Body. Sid Davis Productions 14 minutes, color. Jr-sh-c-ad

Alcoholism (EBF-1952) 22 minutes Black and White. SSAV - U of A sh-c-ad

For Those Who Drink (L.L Cromien) 31 Minutes Black U of A sh-c-ad

It's Best to Know. Onondaga Council of Alcoholism, Syracuse, New York. 8 minutes, black and white. Jr-sh-c-ad

None for the Road. McGraw-Hill, 16 Minutes, Black and White. Jr-sh-c-ad.

Problem Drinkers. 19 minutes. Black and White. ASDH

Should You Drink? McGraw=Hill - Univ. of Illinois, 22 minutes, black and white. jr-sh-c-ad

To Your Health. N.Y.S. Department of Mental Hygiene, 10 minutes, color ASHD

What About Alcoholism. 11 minutes. Black and White ASDH sh-c SSAU

ALCOHOL

BIBLIOGRAPHY
(pamphlets)

Alcohol and Alcoholism, National Institute of Mental Health. Chevy Case, Md. 20203.

Alcoholics Anonymous, In Your Community, Alcoholics Anonymous World Service Inc., Box 459, Grand Central Station, New York, N.Y. 10017.

Alcoholism, Metropolitan Life Insurance Co., Health and Welfare Division.

How Alcohol Affects the Body. 1955 Mark Keller, Rutgers Center of Alcohol Studies, Box 566, Rutgers State University, New Brunswick, N.J. 80903.

How Teens Set the Stage For Alcoholism, 1962, American Medical Association.

Test Your A.Q. (Alcohol Quotient,) American Medical Assn.

The Illness Called Alcoholism. American Medical Association.

The Story of Alcohol, S.C. State Dept. of Education.

Thinking About Drinking, No. 1683, U.S. State Dept. of Health, Education and Welfare.

What About Beer? 1958, C. Aubrey Hearn, School and College Service, Columbus, Ohio.

ALCOHOL

BIBLIOGRAPHY
(periodical)

"An Alcoholic's Letter to His Son," Readers' Digest Reprint, Pleasantville, N.Y., 10570.

"Chronic Alcoholic": New approach to old problem. U.S. News and World Report. April 11, 1966.

"Hope for Alcoholics." Christian Century. February 17, 1965.

"How Serious is Teen-Age Drinking?" (With discussion group program). Parents Magazine. November, 1965.

"How Teenagers Look at Drinking." Senior Scholastic. December 2, 1964.

"Sometime During Your Teen Years Someone is likely to Urge You to Drink: What Will You Say?" Seventeen, Sept., 1965.

"Teen-age Drinkers: A Problem of Morals." Saturday Evening Post, October 17, 1964.

"Teen-agers and Alcohol." PTA Magazine, April, 1963.

The Rising Tide of Alcoholism, Readers' Digest Reprint., Pleasantville, N.Y., 10570 - 1965.

"Youth: Drinking Problem." Time, Oct. 2, 1964.

ALCOHOL

BIBLIOGRAPHY
(books)

American Academy of Political and Social Science. *Understanding Alcoholism*. Edited by Shelden D. Bacon, Philadelphia. 1958.

Atkins, A. J. and Gwynn, J. M., *Teaching Alcohol Education in the Schools*. Macmillan. 1959.

Cain, Arthur H., *Young People and Drinking*. John Day Co., New York. 1963.

Courtville, C. B., *Effects of Alcohol on the Nervous System of Man*. San Lucas Press, Los Angeles. 1955.

Jellinek, E. M., *The Disease Concept of Alcoholism*. Hillhouse Press, New Haven. 1960.

Kessel, Joseph, *The Road Back*. New York. 1962.

King, Albion Roy, *Basic Information on Alcohol*. Washington D. C. 1964.

Lyles, John S., *Youth and Alcoholic Beverages*. 1966.

Maddox, G. L. and McCall, B. C., *Drinking Among Teenagers*. New Brunswick, N. J. 1964.

Mann, Marty, *Marty Mann's New Primer on Alcoholism*. Rinehart and Co. New York. 1958.

Monroe, Margaret E., *Alcohol Education for the Layman*. Rutgers University Press, New Brunswick. 1962.

Williams, R. S., *Alcoholism, the Nutritional Approach*. Austin University of Texas Press. 1959.

DRUGS AND NARCOTICS

Unit for Grades 4-5-6

OVERVIEW

There has been a dramatic increase in the number of kinds of drugs available to the general public for varying ailments and needs. In order that these substances may be used properly and safely, it becomes necessary to educate the people as to the nature of drugs, the positive contribution they can make, and the dangers involved in their misuse.

OBJECTIVES

The pupil in the upper elementary grades should:

__understand man's use of drugs

__appreciate the role drugs play in the control of disease and pain

__understand the nature and basic differences among drugs

__realize that drugs are potent agents that have potential for serious harm if they are misused.

GLOSSARY

1.	Addiction	Given over to a habit.
2.	Anesthetic	A drug that causes total or partial loss of feeling or sensation.
3.	Bacterial	Resulting from or containing microscopic plants.
4.	Communicable	Capable of being spread to others.
5.	Discredited	To doubt or lose belief in.
6.	Disinfect	Destroy disease germs.
7.	Disrepute	Disgrace - loss or want of reputation.
8.	Distress	Oppressed or anguished.
9.	Dressings	An application to a sore or wound.
10.	Drugs	Medicine taken into body which produces either good or harmful effects.
11.	Epileptic	Having a chronic nervous disease causing convulsions and loss of consciousness.
12.	Inflammatory	Tending to irritate.
13.	Mood modifying	Changing feelings or emotions.
14.	Opiates	Drugs containing opium that dulls pain or brings sleep.
15.	Patent medication	Medication that can be purchased without a perscription.
16.	Prescription	A written direction for the preparation and use of medicine.

17.	Ravages	Damages or causes destruction.
18.	Sorcerers	A person who practices magic.
19.	Streptococcus	Kind of bass-shaped bacteria which grows in chains.
20.	Sulfanilamides	Medicines containing sulfa used to treat infection.
21.	Surgery	Treating disease by means of operation.
22.	Tolerate	To allow or put-up with.
23.	Tragedy	A very sad or terrible happening.

DRUGS

Reference	Content	Learning Experience	Information
I. Early man's use of Drugs	Man has used drugs in one form or another for thousands of years.	Refer to Reading list- Use it for outside readings.	There is evidence that drugs were used as far back as 2100 B.C.
	The early use of drugs was associated with magic		Pain was once thought to be caused by demons. Pain relieving drugs that "cast out the demons" were considered to have magical qualities.
	Ancient cultures developed pain relieving drugs from plants.	Which drugs used today are from plants?	1. Curare- a muscle relaxant 2. Digitalis-Foxglove-blood vessel dilator 3. Ephedrine- a stimulant-constricts small arteries 4. Penicillin-Penicillium-Antibacterial drug 5. Quinine-Cinchona bark-antimalarial 6. Reserpine-Rawwolfia serpentina (shrub from India)- a tranquilizer Crude forms of some of these drugs were used long before the era of Modern Medicine.
	While sleep producing drugs (anesthetics) were known to man since 400 B.C. they were not used for surgery until the 19th century.		

Reference	Content	Learning Experience	Information
	A number of drugs in use today were discovered and used by primitive people, Curare was used by natives who placed the drug on the tips of their darts and arrows to paralyze the game they hunted. Modern medicine uses it as a relaxant.		
	Even in earliest times, man was concerned with the use of drugs.		The Greeks used poisonous drugs to carry out capital punishment,- The execution of Socrates.
			At the time of Hippocrates drugs were used to relieve pain and treat illness.
	Many of the early medicines had no effect on the illnesses they were used for. People using them felt better because they thought they were being helped. The same thing is true today.	Survey the number of drugs, home remedies, used for the common cold. What purpose do they serve.	Sometimes a drug has value as a suggestive aid. With reference to drugs for the common cold they serve to treat symptoms, they do not treat the disease itself.

Reference	Content	Learning Experience	Information
	Our forefathers learned about drugs through experience. Some drugs proved to be poisonous, some helpful, and others produced life long addiction.	What means do we now use to test drugs before they are used on people?	Shakespeare often refers to addicting drugs in his works. Because they often caused death, they fell into disrepute and were discredited by the physicians of that time. Drugs were used by the sorcerers of that era.
II. Modern Drugs and Their Contributions			
A. Disease	Drugs play an important role in the control of disease.		Drugs like sulfanilamides help to destroy disease causing bacteria. Drugs can control today reactions such as inflammatory reactions in arthritis and convulsions in epilipics. Numerous drugs can relieve pain. These range from aspirin to the powerful addicting opiates. Drugs that affect a person's mood may be helpful to a person during a period of distress or tragedy.

Reference	Content	Learning Experience	Information
	Drugs may destroy some disease germs, control body reactions, relieve pain, and affect a person's mood.		
	Drugs play an important role in surgery, painless denistry and childbirth.		Drugs are used as anesthetics for surgery patients and to disinfect surgical instruments and dressings.
Effects	Drugs can help people overcome disease effectively and quickly	Compare incidence of bacterially caused communicable diseases in 1900 as compared to present.	The incidence of a disease can be minimized by prompt drug therapy.
	Some diseases do not occur as frequently because drugs can prevent them or overcome them before they can be spread to others.	Invite the school nurse to discuss a specific problem like "pinkeye." What role do drugs play in the treatment and control of this disease.	The incidence of many bacterially caused diseases are under much greater control(T.B., bacterial pneumonia, streptococcal infections, etc.)
	People tolerate the ravages of disease better because of pain relieving and mood modifying drugs.		

Reference	Content	Learning Experience	Information
	Drugs have made surgery painless.		
	Our society is healthier and people live longer due to improved diet, better medical care, and proper use of drug medication.	What kinds of health problems are prevalent in more primitive societies where helpful drugs are not available to control disease?	Life expectancy in the United States is over 70 years. In countries where drugs and modern medicine are not available, life expectancy is considerably less.
III. The Use and Misuse of Drugs.			
A. Types of Drugs	Prescription drugs can only be legally purchased with a doctor's prescription.	Why is the physician the only one who should prescribe drugs?	Drugs can be dangerous and should be used with care.
		Who are some of the people who are called "doctor" but are not medical doctors and therefore cannot prescribe drugs?	People who are sometimes called "doctor" but are not medical doctors include pharmacists, chiropractors, podiatrists, optometrists, and college professors.

Reference	Content	Learning Experience	Information
	Nonprescription drugs may be bought without a doctor's prescription. Many of them contain a warning label "if the condition persists, see a doctor."	Have students make a list of patent medications used for colds, muscle aches, headaches, upset stomach, etc. Ask a physician to review the lists and evaluate the use of these medications.	
B. Proper Use of Drugs.	Drugs are chemical substances which can be harmful if not properly used.		
	The directions given by the doctor for the use of prescription drugs should be followed carefully.		Overdoses of drugs can be harmful while underdoses render the medication ineffective.
	Reading the labels of over-the-counter drugs is important so one may be guided in their proper use and possible dangers.	Inspect the labels of a number of nonprescription drugs for directions in their use and possible side effects.	The effects of a drug in a given person are never completely predictable. Drugs should be used only when necessary and in proper amounts.
	Some medicines must be refrigerated to prevent spoilage.		

Reference	Content	Learning Experience	Information
	Old medicines in the medicine chest should be flushed down the toilet.	With a parent, evaluate the contents of a medicine chest. Dispose of old Medicine, unlabeled bottles, outdates external antiseptics, such as iodine.	Medicines can "spoil" if allowed to stand too long and may become harmful.
	Prescribed amounts of medicine may be helpful. Overdoses can be harmful.		Overdose of aspirin is a leading cause of accidental death among children.
	Medicines should be kept out of reach of young children.		Information centers:
	All drugs should be stored in Medicine chests that can be locked.		U. of A. pharmacy college about filmstrip "Pills,poisons and things" contact Dr. Piccione and Dr. Chin.
	Parents or adults must supervise their children's use of drugs including the use of aspirin, vitamins, and external antiseptics.		Poison Control Center Call any hospital center and they will give information about treatment before ambulance arrives.

Reference	Content	Learning Experience	Information
	Drugs should be accepted only from responsible adults; physicians, dentists, parents, relatives.		

STATEMENT ON DRUG ABUSE IN ELEMENTARY GRADES

After a thorough discussion, the curriculum committee concluded that there is not a need for instruction on drug abuse in the upper elementary at the present time in our district. However, should a teacher feel a need for such instruction in a particular classroom the following resource booklets are available through our school libraries.

A Doctor Discusses Narcotics and Drug Addiction by Louis Relin

Drug Abuse: Escape to Nowhere

DRUGS AND NARCOTICS

Unit for Grades 7-8-9

OVERVIEW

One of man's outstanding accomplishments in the twentieth century has been the discovery or development of many and varied drugs that help him to control disease, relieve its symptoms, and in other ways make life better.

There are now antibiotics and sulfanilamides to combat vacterial infections, diuretics to help the body get rid of excess fluids, tranquilizers and stimulants to affect mood, antihistamines to control allergic reactions, vaccines to prevent specific diseases, stimulants to stay awake depressants to go to sleep, appetite depressants to control weight, vitamin tablets to improve nutrition . . . . .pills, pills, pills.

With the mass media encouraging self-diagnosis and self-medication in a society oversupplied with easily accessible medication we have the bases for varied problems. They are accidental poisoning, death, unnecessary drug habituation, addiction, and general misuse of these substances.

It is perhaps time to pause and to learn about these chemicals that will become increasingly a part of our environment. It would be at best ironical if drugs initially designed to help man, instead, because of their abuse, were to sow the seeds of his destruction.

The term "drug" means articles recognized in the official United States Pharmacopoeia, official Homeopathic Pharmacopoeia of the United States, or official National Formulary, or any supplement to any of them; articles intended for use in the diagnosis, cure, mitigation, treatment, or prevention of disease in man or other animals; and articles (other than food) intended to affect the structure or any function of the body of man or other aminals; and articles intended for use as a component of any article specified.

DRUGS AND NARCOTICS

JUNIOR HIGH SCHOOL
(grades 7, 8, & 9)

I. The Development of Modern Drugs

II. Prescription Drugs

III. Nonprescription Drugs (Over-the-Counter Drugs)

IV. Safeguarding Drugs and Their Use

V. The Historical Use of Drugs

VI. Habit-Forming and Addicting Drugs

OUTCOMES

THE PUPIL IN JUNIOR HIGH SCHOOL SHOULD:

__know the impact modern drugs have had in the control of disease as expressed in terms of increased life expectancy.

__understand the nature of drugs and their reactions in human "chemical factories."

__understand the nature of prescription drugs and the conditions under which they are sold and must be used.

__understand the nature of nonprescription drugs and the pressures created by the mass media that lead people to self-medicative uses of these substances.

__appreciate the role of the FDA in safeguarding the public by checking the safety, effectiveness, and proper labeling of drugs.

__understand man's early use of drugs, their uses and abuses.

__know the differences between habituation and addiction, and the drugs that lead to either.

GLOSSARY

Narcotics & Drugs

1. Addiction -- an overpowering desire or need to continue taking a drug and to obtain it by any means.
2. Amphetamines -- "pep pill" -- abused: it is a stimulant that increases alertness, brings about excitability over feelings of fatigue, also produces an elevation of mood and a feeling of well-being.
3. Agitation -- violent moving or shaking.
4. Aggressive-- taking the first step in an attack or quarrel.
5. Barbiturates -- any salt of barbituric acid, used as a sedative or to deaden pain.
6. "Bennies" -- (benzedrine) causes sleeplessness and excitement.
7. Central Nervous System -- the brain and spinal cord.
8. Convulsions -- an involuntary and violent irregular series of contractions of the muscles.
9. Depressants -- any of several drugs which quiet or calm a person by acting upon the central nervous system. Medical uses include treatment of anxiety, tension and high blood pressure.
10. Depression -- low spirits, sadness.
11. Distorted -- twisted out of shape; changed from the truth.
12. Exhaustion -- extreme fatigue (tiredness).
13. Hallucinogens -- any of several drugs which produce sensations such as distortions of time, space, sound, and color. (non-narcotic).
14. Hostile -- unfriendly, unfavorable.
15. Illegal -- not lawful.
16. LSD -- (lysergic acid diethylamide) affects the central nervous system, producing changes in mood and behavior.
17. Narcolepsy -- disease characterized by an overwhelming desire to sleep.
18. Narcotics -- a drug which induces relief of pain and is accompanied by deep sleep or stupor.
19. Obesity -- extreme fatness.
20. Overdose -- introduction into blood stream of a concentrated amount of drugs in excess of that which the body is able to tolerate.
21. Panic -- unreasoning fear.
22. Sanity -- soundness of mind and judgment.
23. Sedatives -- drugs tending to calm, moderate, or tranquilize.
24. Stimulants -- that which stirs or arouses one to action.
25. Suicide -- killing oneself on purpose.
26. Tranquilizers -- chemical substances affecting the central nervous system resulting in reduction in anxiety and tension (not sedatives).
27. Unpredictable -- not being able to tell beforehand.
28. Withdrawal -- extreme physical discomfort experienced by a narcotics' addict when the effect of the narcotic is wearing off.

FILM STRIP

GLUE SNIFFING

PREPARATION FOR FILM STRIP:

VACABULARY:

1. Amnesia -- loss of memory caused by injury to the brain.
2. Euphoria -- a feeling of well-being.
3. Impulsive -- acting upon impulse or drive.
4. Introverted person -- one more interested in own thoughts and feelings than in what is going on around him.
5. Toxic -- poisonous.
6. Unconsciousness -- state of not knowing and not being able to feel.

FILM STRIP

WHY NOT MARIJUANA?

PREPARATION FOR FILM STRIP

VOCABULARY:

1. Aggressive -- taking the first step in an attack or quarrel.
2. Antagonism -- active conflict or opposition.
3. Anxiety reactions -- actions caused by uneasy thoughts or fears about what may happen.
4. Cannabis Sativa -- (Indian Hemp) plant from which marijuana comes.
5. Combatant -- fighter or fighting.
6. Emancipation - setting free from slavery of any kind.
7. Hallucinogen -- any of several drugs which produce sensations such as distortions of time, space, sound, and color (non-narcotic).
8. Heroin -- a poisonous habit forming drug made from morphine.
9. Homcide -- the killing of one human by another.
10. Illegal -- not lawful.
11. Irrational -- unreasonable.
12. "Joints" -- marijuana cigarettes.
13. Microgram -- one millionth of a gram.
14. Opium -- a depressant drug obtained from the juice of the opium poppy.
15. Opposition -- action against.
16. Psychotic -- mental disorder.
17. Rebellion -- fight against.
18. Sedative -- drug tending to calm, moderate, or tranquilize.
19. Suicide -- killing oneself on purpose.

FILM STRIP

LSD -- TRIP OR TRAP?

PREPARATION FOR FILM STRIP:

VACABULARY:

1. Convulsions -- violent movements of the body.
2. Disorientation -- lose or take out of the exact position.
3. Hallucinogen -- any of several drugs which produce sensations such as distortions of time, space, sound and color(non-narcotic).
4. Leukemia -- a serious disease in which there is a great increase in the number of white blood cells.
5. Mental Deterioration -- mental ability begins to lessen.
6. Psychosis -- the medical term for severe mental disorder.
7. Peyote -- drug mescaline which comes from the button of a cactus which is like LSD in that it can produce effects similar to mental illness.

Reference	Content	Learning Experience	Information
I. The Development of Modern Drugs			
A. Implications			
Incidence and the Control of Symptoms of Disease	Decreased incidence greater control of disease have resulted from the development of more and better drugs.		Antibiotics and sulfa drugs have been effective in treating a wide variety of bacterial infections; e.g. blood poisoning, pneumonia, venereal disease, bone infections.
			Diuretics help the body to get rid of excess fluids to take the strain off the circulatory system.
		Report on a specific drug and indicate its health significance.	Tranquilizers have a quieting effect. Anti-depressant drugs (:psychic energizers) are used to bring a person out of a depressed state.
			Antihistamines are used to control allergic reactions.

Reference	Content	Learning Experience	Information
2. Mortality Rates	Due to the development of drugs, communicable diseases that were the leading causes of death fifty years ago no longer top the list.	Compare lists of disease prevalence for 1900 with a current list.	In recent years death rates of many diseases have been drastically reduced by vaccines and by drugs: Poliomyelitis -75% Acute Rheumatic Fever-83% Syphilis -89% Influenza -90% Tuberculosis -91% Measles -94% Whooping Cough -96% Diptheria -99%
	Since 1900 the overall mortality rate has dropped about 45%.		
3. Life Expectancy	Life expectancy in 1900 was about 47, it is now about 70 years.		It is estimated that more than 5 million Americans are alive today as a result of the changes in the mortality rate since 1937.
	Life expectancy at birth has been increased by 10 years since 1937.		
B. Expanded Use of Drugs	More than 90% of the prescriptions written today are for drugs that were nonexistent 25 years ago.		
	Since 1951 drug sales have increased from 1 3/4 to about 6 billion dollars.		

Reference	Contents	Learning Experience	Information
	About 800 - 900 drugs are extensively used in the United States.		
C. Their Nature	Some drugs come from plants (penicillin, quinine), others are chemical compounds developed in the laboratory.		The introduction of drugs into the body often results in unexpected, sometimes harmful, reactions known as "side effects."
		By reviewing labels on drugs, indicate what kinds of side effects people should be alerted to with certain drugs.	Side effects are many times mild with the person developing a slight rash or other comparatively trivial symptoms. However, "side effects" can also be quite harmful and sometimes may cause death.
	Some drugs work by destroying the disease causing germ. Others relieve symptoms of a disease, like pain, fever, or headache.		
		Why do drugs sometimes cause various reactions in different people?	

Reference	Contents	Learning Experience	Information
	The human body is a chemical factory that produces compounds such as hormones, and enzymes, which are necessary for life.		
	These substances control body processes such as growth, activity, and digestion.		A drug's reaction in a particular person is never completely predictable. Drugs should be used with caution and with a physician's supervision, particularly when the more powerful drugs are utilized.
	Body chemistry varies in people. In essence, the same drug is being introduced into varying environments.		
II. Prescription Drugs			
A. Definition	Prescription drugs are those that can only be legally bought with a prescription from a medical doctor who is licensed to prescribe medication.	Discuss the preparation and experience of those doctors who can, and those who cannot, prescrobe drugs.	Prescription drugs are so catergorized because they are considered strong enough to warrant medical supervision of their use.
B. Legislative Provisions	It is unlawful to sell a prescription drug without a prescription.	Invite a pharmacist to speak to the class describing his education and professional duties.	
	Dosages of prescription drugs are based on the person's age, height, weight, and the condition of health- among other factors.		

Reference	Contents	Learning Experience	Information
	Only a registered pharmacist is licensed to fill a prescription.		A pharmacist must be a graduat of an accredited college of pharmacy, pass a state examination, and be licensed in the state in which he practices.
C. Use and Dispensing of Prescription Drugs	The physician will tell the pharmacist what instructions to put on the label of prescribed medicines.	Examine the label of the bottle of a prescription drug. It should contain the number of the prescription, date it was filled, nume of patient instructions for use, physician's name.	
	In taking medication a person should know: a) How often, and when to take it b) How much to tak each time c) When to check the effects of the medication with his doctor. d) Any other special instructions the doctor may choose to give.		

Reference	Content	Learning Experience	Information
	The giving of a prescription drug to someone else because he appears to have the same or similar ailment constitutes the practice of medicine without a license.		The attempt by a lay person to diagnose an ailment and prescribe strong medication for it is at best foolhardy.
	A pharmacist should not be asked to refill a prescription unless it has been approved by the physician.		The Durham-Humphrey Amendment of the Federal Food, Drug and Cosmetic Act protects the consumer by forbiding the pharmacist to fill a prescription not authorized by a physician.
	"Side effects" that may occur from the taking of medication should be promptly reported to the physician.		
	Left over medicines should be discarded. Time can change the strength and nature of a drug.		

Reference	Content	Learning Experience	Information
III. Nonprescription Drugs (Over-the-Counter-Drugs)			
A. Definition	Nonprescription drugs are those that may be sold "over-the-counter" or without a prescription.		Nonprescription drugs are of value to the layman if he follows the directions and cautions given on the label.
B. Legislative Provisions	The law requires that nonprescription drugs have directions on the label with regard to their use.	Survey television commercials concerned with drugs. Are there any differences in what appears on the label of the drug?	The Federal Trade Commission which supervises advertising does not have the power that the Food and Drug Administration does in its supervision of labeling. Lack of coordination in the powers of these federal agencies sometimes results in discrepancies in the information presented to the public with regard to drug products.
C. Use and Dispensing of Nonprescription Drugs	Directions for the use of a drug should be followed carefully since any drug if misused may be poisonous.	Inspect the directions and warnings on the labels of nonprescription drugs.	

Reference	Content	Learning Experience	Information
	Nonprescription drugs should be used for minor short term ailments with the advice of a physician.	Request materials from the Food and Drug Administration.	Aspirin caused 125 deaths each year and 600,000 cases of poisoning (mostly among children).
	Any continuing illness or symptoms should be referred to a medical doctor.		
	Never become the steady user of any drug unless it is recommended by a physician.	Survey advertisements on television, radio - in newspapers, magazines, etc. Do the ads attempt to lead the individual into self-diagnosing and self-medication with nonprescription drugs? Do they attempt to lead the individual into the habitual use of a drug product?	Two billion dollars a year are spent in this country on patent medicines.
	Many commercials on television, radio, in newspapers, and magazines, and the sales talks by door to door salesmen are designed to "sell" the public on the habitual use of unnecessary drugs: tonics, alkalines, pills, capsules, laxatives, pain relievers, etc.		

Reference	Content	Learning Experience	Information
IV. Safeguarding Drugs and Their Use			
A. The Role of the Food and Drug Administration	The Federal Food, Drug and Cosmetic Act is designed to insure the safety and efficacy of drugs reaching the consumer.		Every batch of insulin, antibiotics, and vaccines for human use are tested by the Division of Biological Standards of the Public Health Service.
	This federal law is administered by the Food and Drug Administration.	Invite an FDA representative from the nearest regional office to discuss the role of this federal agency in safeguarding the drug consumer.	
	A new drug developed by a drug manufacturer must be proved safe and effective for its proposed use by extensive tests. It is then submitted for approval to the Food and Drug Administration.		FDA personnel (physicians, chemists, pharmacists, etc) carefully evaluate the results of the manufacturer's testing of a drug.
	Only if a drug is proved safe by tests on humans will the Food and Drug Administration approve it.		First tests on a new drug are done on animals. If these prove successful they proceed to test the drug with humans.

Reference	Content	Learning Experience	Information
	If a drug on the market gives any indication of being unsafe it can be recalled by the Food and Drug Administration.	Discuss the significance of the Kefauver-Harris Amendments and the protection they afford the drug consumer.	The Kefauver-Harris Amendments (1962) to the Federal Food, Drug and Cosmetic Act of 1938 required that a marketed drug be safe and effective for its intended uses.
	The rules for the proper labeling of drugs are also enforced by the FDA.		
V. The Historical Use of Drugs	Drugs have long been used as a means of relieving tension, fatigue, and pain.		
A. Alcohol	The most common sleep producing or numbing drug is alcohol.	Review the literature and report on the historical uses of drugs by man.	In Roman times wine was given to prisoners before their execution to dull the agony of death This was referred to as the "Wine of the Condemned."
B. Opium	Opium has been used for various purposed for many centuries.		Opium was known to the Egyptians and Persians at least a thousand years before Christ. During the Christian era the Greeks and Romans used opium in the practice of medicine.

Reference	Content	Learning Experience	Information
	Through the centuries, when little was known about treating disease, opium in varied forms was used as medication to relieve pain and discomfort.		
			Opium at this time was used as a pain reliever taken by mouth or used as a liniment.
			During the 9th and 10th centuries Arab camel trains carried and helped spread the use of opium to India, Persia, and China.
			British influence caused opium smoking to become widespread in China and it was introduced in this country when Chinese were brought here to build the railroads of the old west.
	During the 18th and 19th centuries a large variety of medicines containing opium were sold in this country before its addiction qualities were known.	Review controls now used to prevent unexpected reactions and effects from drugs in use.	

Reference	Content	Learning Experience	Information
			By 1900 it was estimated that there were a quarter of a million narcotic addicts in the United States.
	Many people became accidentally addicted through used of medicines containing opium. The addicting and other dangerous properties of these drugs were then realized by physicians.		
			The public is warned through newspapers, magazines, and other mass media about the dangers of drug addiction.
C. Anti-Drug Legislation	Both State & Federal Legislation has been enacted to control drugs.	Invite a narcotics squad agent to discuss his role in the control of drug traffic.	The Harrison Narcotics Act of 1914 regulated the importation, manufacture, production, compounding, sale, and dispensing or opiates or coca leaves (containing cocaine, a stimulant). While this was a good law, it did leave many people who were now ill with drug addiction without a place to go for treatment.

Reference	Content	Learning Experience	Information
			The addicted were forced to get drugs illegally. The Harrison Narcotic Act initially caused a steady decrease in drug addiction. Since 1948, however, there has been a significant upsurge of addiction, particularly among young people.
VI. Habit Forming and Addicting Drugs	Drug addiction and drug habituation are related in some ways. They are, however, different. The term "drug dependence" is useful and nonspecific.	*Pharmacopoeia of the U.S. of America* may be used as a reference.	Drug addiction is a state of periodic or chronic intoxication produced by the repeated consumption of a drug (natural or synthetic). Its characteristics include:
A. Definition 1. Drug Addiction			1) an overpowering desire or need (compulsion to continue taking the drug and to obtain it by any means 2) a tendency to increase the dose; 3) a psychic (psychological) and generally a physical dependence on the effects of the drug.

Reference	Content	Learning Experience	Information
			4) an effect detrimental to the individual and to society
2. Drug Habituation	Habituation is an emotional or psychological need for drugs in order to sustain a feeling of well being.		"Drug habituation (habit) is a condition resulting from the repeated administration of a drug. Its characteristics include: 1. a desire (but not a compulsion) to continue taking the drug for the sense of improved well-being that it engenders; 2. little or no tendency to increase the dose; 3. some degree of psychic dependence on the effect of the drug, but absence of physical dependence and hence of an abstinence syndrome; 4, a detrimental effect if any, primarily to the individual.

Reference	Content	Learning Experience	Information
3. Drug Dependence	Drug dependence involves the real or imagined need for any addiction or habituating drug.		
B. Types of Drugs			
1. Stimulants	Physicians sometimes prescribe these drugs in small amounts	Life magazine article, "Drug Addiction, by J. Mills, Life, V. 58, February 26, 1965, page 66B-82; March5, 1965, page 92B-103.	
a. Dangers	Self medication in the form of "pep pills" and "Bennies" can sometimes lead to excessive nervousness, poor judgment, spasms, tremors, and hallucinations.		Benzedrine is found in diet deqressant tablets and in drugs designed to help relieve depression.
	People who fool with drugs of this type for "kicks" are not prepared to deal with the dangerous "side effects" these drugs can produce.	Film Strip: Let's Talk About Goof Balls and Pep Pills.	Truck drivers may use stimulant drugs to stay awake on long night hauls. Many serious accidents are associated with the use of these drugs. The sale of amphtamines or barbiturates to minors is punishable to the extent of a $5,000 fine and two years imprisonment for a first offense and a $15,000 fine and six years imprisonment for a second offense.

Reference	Content	Learning Experience	Information
			Trade Names and Nicknames: - Seconal Sodium (secobarbital sodium) "red birds" or "red devils" - Nembutal (pentobarbital sodium) "yellow jackets" or "nemmies" - Amytal Sodium (amobarbital sodium) "blue heavens" - Luminal (phenobarbital) "purple hearts" - Tuinal (amobarbital sodium-secobarbital sodium) "tooies" or "rainbows" - Benzedrine (amphetamine sulfate) "bennies" - Dexedrine(dextroamphetamine sulfate) "co-pilots" - Diphetamine (dextroamphetamine sulfate - amphetamine sulfate_ "footballs"
	Cocaine, a drug derived from the leaves of the coca plant, was once used as a local anesthetic until novacaine was developed. The habitual user of cocaine develops dangerous hallucinations, many times resulting in the assault and murder of people.		

Reference	Content	Learning Experience	Information
b. Dependence	Stimulant drugs are habit forming substances with harmful and dangerous effects when misused.		Some amphetamine users may take 150 pills a day. Illegal sources charge 10¢ to 25¢ a pill.
	As tolerance for the drug develops the dosage needs to be increased for the same "kick."		
2. Depressants	A number of narcotic drugs are used by physicians when treating patients to deaden pain and induce sleep.		
a. Medical Use	Care is exercised in the use of these drugs by the physician since overuse can result in the addiction of the patient.		
b. Addiction	An addicted person deprived of the drug undergoes a withdrawal illness. This includes vomiting, diarrhea, fever, and severe cramps.	Discuss: Debate: Should the narcotics addict be treated as an ill person or as a criminal?	

ADDICTING
NARCOTIC DRUGS: Morphine, Codeine, Demerol, Methadone, Heroin(not used medically).

Reference	Content	Learning Experience	Information
	Drug addicts are often people with personality problems who seek to escape their troubles through the use of drugs.	Discuss why some people resort to the use of drugs to escape their problems.	NONNARCOTIC, DEPRESSIVE, ADDICTING, AND DEPENDENCY DRUGS: Barbiturates, Ethyl alcohol, Chloral hydrate, Paraldehyde. NONADDICTING,NARCOTIC DRUGS: Marihuana.
	Escape through the use of drugs is a dead end since little is known about treating the illness of drug addiction.	How do drugs complicate rather than solve problems?	An addict can be helped medically to get through this illness. Complete cure is rare since the cure rate for drug addiction is approximately 6%.
	The craving for drugs is so intense in the addict that maintaining his drug supply becomes his main concern.	What constructine sources of help are there in the community for people with emotional problems?	The addicted person is forced to deal with and to be at the mercy of the criminal to get his needed drugs.
	Committing varied crimes becomes inevitable since the maintenance of the addiction may run as high as $75 a day.	Discuss the relationship of the crime rate to drug addiction.	Theft and prostitution are common sources of money with which the addict purchases drugs.

Reference	Control	Learning Experience	Information
	Marihuana is a strong habit forming drug and is often a stepping stone to the use of stronger addicting substances like heroin.		
	Heroin is one of the commonly used addicting drugs. It is so powerful and addicting that it has been outlawed for medical use in the U.S.	Film Strip: Why Not Marihuana?	
	Barbiturates are prescription drugs that are used as sedatives. Prolonged use can cause addiction.		Dependency on barbiturates has been rapidly increasing.
	People taking sleeping pills containing barbiturates have died from overdoses because they were tooo drowsy at the time to know what they were doing.		
3. Plastic Cements or Airplane Glue (Fumes)	Attempts by children to inhale the fumes from "airplane glue" have increased.		The inhalation of concentrated fume of plastic cements or airplane glue will have the following effects:

Reference	Content	Learning Experience	Information
			1) Initial reactions: (30-45 min.) mild intoxication, exhilaration, followed by lack of muscular coordination slurring of speech and a drunken appearance, sometimes accompanied by hallucinations. 2) Period of drowsiness and stupor follows for up to an hour.
a. Effects	Reports indicate that inhalation of high concentrations of glue will cause damage to the respiratory system, heart, liver, and kidneys. A number of blood abnormalities and paralysis by nerve damage have occurred.		
	Medical authorities believe that increased sniffing can result in physiological damage.	Discuss "drug" parties; glue-sniffing, marihuana, pep-pills Film strip: Glue Sniffing	

	Reference	Content	Learning Experience	Information
4.	LSD (Lysergic Acid Diethylamide)	LSD is a dangerous and unpredictable drug to use.	Invite the school doctor to talk about the psychological effects caused by LSD. Film Strip: LSD - Trip or Trap?	LSD is an hallucinogen currently being given a great deal of attention. It is often found in various forms (sugar cubes and liquid) and may be taken quite easily. Its reaction may be very severe and, in fact, may induce psychotic state. LSD is still in the experimental state and is used only under close control situations by psychiatrists. Although users of LSD have made many positive claims as to its value in "mind expansion" there is no scientific evidence to verify these claims. Used by competent physicians, in treatment of some forms of mental illness, a controlled, desirable effect may result. The unstable and unpredictable effects of this drug demand strict medical control.

Reference	Content	Learning Experience	Information
5. The Dope Peddler	Criminals who smuggle illegal drugs into the country may not be addicts themselves. An addict may be too unreliable to carry on such an intricate business.	Discuss the reporting of the dope peddler as a step in safeguarding our society.	The selling of illegal drugs is a highly profitable business. The original purchase of $1,000 of heroin in Italy or Turkey may sell for as much as $1,000,000 in this country after it has been diluted a number of times. Peddlers often use teenage addicts to bring in new customers. In return the addict may receive a free supply of drugs. The peddler apprehended for selling a narcotic drug or marihuana to a person under 18 years of age is subject to a maximum sentence of 40 years of imprisonment and a $20,000 fine. If a jury so decides, a special penalty for the sale of heroin to a person under 18 years of age consists of a $20,000 fine, 10 years to life imprisonment.

DRUGS AND NARCOTICS

Unit for Grades 10-11-12

OVERVIEW

There are many ways to leave this world. All people in one manner or another "escape" temporarily through such things as daydreaming, sleep, or alcohol. Others escape permanently through death or irreversible psychotic conditions. Some use drugs as a temporary escape only to find their ensuing addiction to be rather permanent. It is perhaps analogous to the astronaut who leaves his spaceship for a brief venture into space and finds that he cannot return. He is rather ironically "trapped" in the vast regions of outer space. The drug user likewise is "trapped" in his fantasy world never quite returning to a substantive reality. The escape becomes the entrapment.

It would be interesting to discuss and perhaps even argue the moralities and ethics one would associate with one form of escape as compared to another. As educators we need to involve our students in such a discourse along with supplying them with scientifically accurate information with regard to the nature and effects of those substances we are concerned with.

If they make mistakes in the use of drugs, let it not be said that they were not informed and given an opportunity to develop values with regard to their use with a mature, knowledgeable person. "And ye shall know the truth, and the truth shall make you free."

The term "drug" means articles recognized in the official United States Pharmacopoeia, official Homeopathic Pharmacopoeia of the United States or official National Formulary, or any supplement to any of them; articles intended for use in the diagnosis, cure, mitigation, treatment, or prevention of disease in man or other animals; and articles (other than food) intended to affect the structure or any fuction of the body of man or other animals; and articles intended for use as a component of any article specified.

DRUGS AND NARCOTICS

SENIOR HIGH SCHOOL
(grades 10, 11, & 12)

I. Addiction and Habituation

II. The Narcotic Drugs

III. Marihuana

IV. Stimulants

V. Drug Traffic

VI. Legislation

VII. Rehabilitation of the Addict

OUTCOMES

THE PUPIL IN SENIOR HIGH SCHOOL SHOULD:

-- understand varying causes and factors leading to drug addiction

-- understand the nature of narcotic drugs, the benefits of their use, and the consequences of their abuse

-- know the nature of barbiturate drugs, their uses, and the potentials of abuse as our society's most serious drug problem

-- know the nature and use of stimulant drugs and the effects of developing a dependence on these substances

-- realize the nature and research value of LSD and the dangers of this potent drug to mind and body

-- understand control measures being taken to control illegal drug traffic

-- understand current treatment of the addict and the varying approaches being discussed for the possible solution to the drug problem

GLOSSARY

1. Addiction	In 1957, the World Health Organization (WHO) defined drug addiction as a state of periodic or chronic intoxication produced by the repeated consumption of a drug. Its characteristics include: (1) an overpowering desire or need (compulsion) to continue taking the drug and to obtain it by any means; (2) a tendency to increase the dose; (3) a psychic (psychological) and generally a physical dependence on the effects of the drug; (4) an effect detrimental to the individual and to society.
2. Central nervous system	The brain and spinal cord.
3. Convulsion	An involuntary and violent irregular series of contractions of the muscles.
4. Delirium	A condition characterized by mental excitement, confusion, disordered speech and, often, hallucinations.
5. Depressant	Any of several drugs which sedate by acting on the central nervous system. Medical uses include the treatment of anxiety, tension and high blood pressure.
6. Drug dependence	As described in 1963 by (WHO), drug dependence is "a state arising from repeated administration of a drug on a periodic or continuous basis." Its characteristics will vary with the agent involved.
7. Habituation	As defined in 1957 by (WHO), drug habituation is a condition, resulting from the repeated consumption of a drug, which includes these characteristics; (1) a desire (but not a compulsion) to continue taking the drug for the sense of improved well-being that it engenders; (2) little or no tendency to increse the dose; (3) some degree of psychic dependence and, hence, no abstinence syndrome; (4) a detrimental effect, if any, primarily on the individual.

8.	Hallucinogen	Any of several drugs, popularly called psychedelics, which produce sensation such as distortion of time, space, sound, color and other bizarre effects.
9.	Hypnotic	An agent that induces sleep.
10.	Narcotic	This term has two definitions. Medically defined, a narcotic is any drug that produces sleep or stupor and also relieves pain. Legally defined, the term means any drug regulated under the Harrison Act and other Federal narcotic laws.
11.	Physical dependence	Physiological adaptation of the body to the presence of a drug. In effect, the body develops a continuing need for the drug. Once such dependence has been established, the body reacts with predictable symptoms if the drug is abruptly withdrawn. The nature and severity of withdrawal symptoms depend on the drug being used and the daily dosage level attained.
12.	Psychological dependence	An attachment to drug use which arises from a drug's ability to satisfy some emotional or personality need of an individual.
13.	Psychosis	A major mental disorder; any serious mental derangement. "Psychosis" replaces the old term "insanity."
14.	Sedative	An agent which quiets or calms activity.
15.	Side effects	A given drug may have many actions on the body. Usually one or two of the more prominent actions will be medically useful. The others, usually weaker effects, are called side effects. They are not necessarily harmful, but may be annoying.
16.	Stimulant	Any of several drugs which act on the central nervous system, producing excitation, alertness and wakefulness. Medical uses include the treatment of mild depressive states, overwight and narcolepsy (a disease characterized by an almost overwhelming desire to sleep.)

17. Tolerance	With many drugs, a person must keep increasing the dosage to maintain the same effect. This characteristic is called tolerance. Tolerance develops with the barbiturates, with amphetamines and related compounds and with opiates.
18. Toxic effects	Any substance in excessive amounts can act as a poison or toxin. With drugs, the margin between the dosage that produces beneficial effects varies greatly. Moreover, this margin will vary with the person taking the drug.

DRUG ABUSE

*Drug abuse may be defined as the taking of drugs under the following circumstances:

"a) in amounts sufficient to create a hazard to his own health or to the safety of the community;

or

b) when he obtains drugs through illicit channels;

or

c) when he takes drugs on his own initiative rather than on the basis of professional advice."

1-Report of the Task Force on Addictions
State of New York
Department of Mental Hygiene

Reference	Concept	Learning Activities	Information
I. Addiction and Habituation A. Definition	The term "drug dependence" may be used to include both drug addiction and drug habituation.		"Drug Addiction is a state of periodic or chronic intoxication produced by the repeated consumption of a drug (natural or synthetic). Its characteristics include: 1. an overpowering desire or need (compulsion) to continue taking the drug and to obtain it by any means; 2. a tendency to increase the dose; 3. a psychic (psychological) and generally a physical dependence on the effects of the drug; 4. an effect detrimental to the individual and to society." "Drug Habituation (habit) is a condition resulting from the repeated administration of a drug. Its characteristics include-- 1. a desire (but not a compulsion) to continue taking the drug for the sense of improved well-being that it engenders; 2. little or no tendency to increase the dose;

Reference	Concept	Learning Activities	Information
			3. some degree of psychic dependence on the effect of the drug, but absence of physical dependence and hence of an abstinence syndrome; 4. a detrimental effect, if any, primarily to the individual."
	Addiction is characterized by three separate phenomena: 1. Tolerance 2. Habituation 3. Physical dependence	*Pharmacopoeia of the United States of America* may be used as a reference.	Tolerance: Increase dosages needed to secure the same effect. Habituation: An emotional or psychological need for drugs in order to sustain a feeling of well-being. Physical dependence: The need for drugs expressed by bodily demands.
	Addiction may occur with drugs other than derivatives of opium. Synthetic compounds may be equal in their addictive effects.		
B. Some Causes of Addiction	There is a very complex relationship between drug addiction and drug use.		The largest number of addicts is to be found in the teenage groups, ages 15 to 19.
	There are some drugs that may be called "lead-up drugs," in the sense that they introduce the beginner to the use of addicting compounds.	Film: *Narcotics--Why Not?*	Oftentimes the use of such products as ethyl alcohol, pep-pills, marihuana, may lead to an "experiment with more dangerous drugs."

Reference	Concept	Learning Activities	Information
	A person may be addicted to drugs because of medical treatment during an illness or injury. A person may be addicted to drugs because of mental-emotional - social problems.		Disease Components (Drug addiction as a disease) 1. Host - the person 2. Agent - the drug 3. Environment which acts as a catalyst to bring host and agent together.
1. Medical or Accidental Addiction	Accidental addiction occurs when large doses of opiates are given to an individual because of painful injury or illness.	Read autobiography of Barney Ross who suffered accidental addiction due to World War II injuries.	Where emotional problems are not related to addiction as in accidental addiction, the chances of the individual overcoming the addiction is better.
	Many young people are victims of accidental addictions because they were enticed to try an addicting drug on a dare or challenge.	Is it "Chicken" to refuse to try a drug? Who has the stronger personality? The one who refuses to try a drug, or the one who is goaded into trying it?	Unaware of the powerful addicting qualities of some drugs young people are trapped into addiction. An increasing number of teenage addicts being treated for addiction are accidental addicts. It is estimated that 5,000 boys and girls develop addiction each year in New York City.

Reference	Concept	Learning Activities	Information
2. Emotional Problems	The unhappy person who feels insecure and inadequate may use drugs as a means of escaping his problems and feelings of inadequacy. Solving problems by seeking the help of parents, friends, counselors, clergymen, psychologists, and psychiatrists is more constructive than adding the problem of addiction.		Many addicts are described by psychiatrists as being immature and incapable of assuming responsibility.
		Visual Aid: Photographs of actual material used by addicts. These are sometimes available through local law enforcement agencies.	The United Nations Committee on narcotic drugs lists 79 drugs, including 51 synthetics. Addiction to heroin is possible after three "fixes."
II. The Narcotic Drugs			
A. Opium and Its Derivitives	Drugs derived from opium can be addicting. Illegal opiates are brought into this country by the underworld.		Opium is obtained from the milky juice of the unripe seed pod of the opium poppy.

Reference	Concept	Learning Activities	Information
			Narcotics are depressant drugs that act on the central nervous system. Narcotics have no curative value, but can serve to relieve pain.
			Narcotic drugs cause mental and physical inactivity and produce sleep; in larger doses cause stupor, coma, and death.
1. Morphine	Morphine is used medically to relieve severe pain.	Invite the school physician to discuss the medical uses of opiates.	Morphine is a fine powder that is odorless and has a bitter taste.
	Morphine should never be taken except on a doctor's order.		Morphine sold to the addict is usually diluted with quinine or milk sugar.
	Continued use of morphine can result in addiction.		Addicts call capsules of morphine "caps" and flat packets "decks."
			A tolerance can be developed for the drug with continued use. The addict needs increasingly larger doses to satisfy his body needs.

Reference	Concept	Learning Activities	Information
	Heroin, once thought to be nonaddicting, is actually a stronger addicting drug than morphine.	Review literature and report on those drugs that were thought harmless when first discovered, but later proved to be addicting or harmful in other ways.	Heroin is sold in the same form as morphine.
	Heroin is outlawed in the United States, even for medical use because of its strong addicting qualities.		
	Heroin is a source of huge profits for the underworld.	Discuss the terms: dope, hooked, fit, fix, monkey on your back, cold turkey, etc.	Approximately 2 lbs. of raw opium is bought for about $350 from Turkish farmers. After it is converted to heroin, it is diluted with milk sugar to the extent of 95% or more. It is then sold to the addicts for almost a half million dollars. It is estimated that the price of heroin is over 200 times that of gold.
	Addicts usually inject the drug into a vein. Serious diseases such as malaria, syphilis, and infectious hepatitis are transmitted from one addict to another by unsterilized needles.		

Reference	Concept	Learning Activities	Information
			While small doses of morphine relieve pain, larger doses can produce sleep, unconsciousness, and even death.
		Suggested movies: see supplementary aids: "The Terrible Truth"	Withdrawal symptoms include a total state of misery; emotional and physical irritability; nervousness, headache, twitching, tremor, and vomiting.
			After prolonged addictions, symptoms may include convulsions-delirium; disorientation, tremor, hallucination, delusions, fever, and prolonged sleep.
			Occasionally, withdrawal may be fatal.
2. Heroin	Heroin is a white powder made from morphine.		Heroin is about three times as powerful as morphine. Because it has a strong effect and provides a greater "kick," it is the opiate preferred by addicts.

Reference	Concept	Learning Activities	Information
	The strength of the adulterated herion that reaches the addict cannot be predicted. If it is too strong it will cause death. If it is too weak it will not relieve the developing symptoms of withdrawal illness.	Invite a narcotics squad man to discuss problems of dealing with and apprehending the addicted.	Addicts are often identified by scars on arms and legs, the result of excessive punctures by needles. The drug is many times contaminated with impurities harmful to the addict. There is no FDA in the underworld!
3. Withdrawal Illness	The physical dependence created by the drug causes the body to react in its absence; this is called withdrawal illness.	Film: The Losers	
	The symptoms of withdrawal illness at first resemble those of influenza: chills, perspiring, goose flesh, running eyes and nose; arms and legs ache and twitch; diarrhea and vomiting; individual curls up with severe cramps in arms, legs, stomach, and back; pleads for drug.		Peak of withdrawal symptoms are reached in 24 to 30 hours. (If the addicted was using herion.) When using morphine, symptoms reach a peak in 36 to 48 hours. Many addicts live in constant fear of withdrawal illness. The effects of a dose of the drug (herion et. al.) wear off in three to four hours. Maintaining "the habit" may cost as much as $50-$75 a day.

Reference	Concepts	Learning Activities	Information
	An elevated crime rate is related to drug addiction.	Describe why the crime rate is invariably increased where drug addiction exists.	Most new addicts were already launched on some kind of a crime career prior to addiction.
	Stealing and prostitution are main sources of income for the addict.		In New York City alone, it is estimated that addicts must raise $500,000 to $700,000 daily to maintain their addiction.
	Drug addiction affects all of society.		It is estimated that there are 13 billion doses of herion used per year.
4. Other Opiate Drugs: Dilaudid Metopon Codeine	Dilaudid, metopon, codeine are similar to morphine and have similar effects.		Codeine has a low grade addiction liability. Dilaudid and metopon are as addicting as morphine. Other opiate drugs: (additional) 1. Morphine group: opium, paregoric, morphine diacetyl morphine= herion, codeine dihydromorphinome=dilaudid dihydrohydroxy codeinone= Percodan (nalorphine) 2. Meperidine group: meperidine=Demerol (the physician addicts favorite) alphaprodine=Nisentil

Reference	Concept	Learning Activities	Information
			3. Methadone group: d-propoxyphene=Darvon methadone Diphenoxylate=Lomotil
			4. Morphinans: Levorphanol=Levo dromoran
			Nalorphine, when administered under the supervision of a physician, will produce withdrawal effects in a person already addicted to morphine. This is sometimes used to uncover the addict who may be adept at concealment.
5. Synthetic Substitutes for Morphine	Demoral and methadone are drug substitutes for morphine that can be manufactured in the laboratory. They are also addicting.		Methadone is being tested for maintenance use in addicts undergoing treatment for heroin addiction.
B. Barbiturates and Tranquilizers	Barbiturate drugs are sedative prescription drugs used by the medical profession to help people to relax and sleep.	What would be considered proper use of barbiturate drugs?	
	The names of these drugs usually end in "al" since they are realted to barbital.		Examples of barbiturates are: Phenobarbital, Luminal, Amytal, Neubutal, Seconal, Pentothal, Pentobarbital.

Reference	Concepts	Learning Activities	Information
	Barbiturates in larger doses can cause an intoxication similar to that caused by alcohol.		Sedative drugs sometimes lead to periods of excited behavior when they depress mental control centers that inhibit behavior.
	Continued unsupervised use of barbiturates will lead to dependency.		Barbiturate drugs are often colored which has led addicts to refer to them as "yellow jackets," "blue angels," or "pink ladies." They are also referred to as "goofballs."
	Barbiturates taken as directed usually have no adverse effects on the body.		
	There has been a sharp increase in the use of barbiturates in this country.	Why do some authorities fear that the misuse of barbiturate may pose an even more serious problem than the misuse of opiates?	Many authorities fear that barbiturate habituation may prove to be the most severe drug problem in our society.
	Barbiturate poisoning is the leading cause of adult death by poisoning.		An overdose of barbiturates will produce symptoms similar to alcohol intoxication, (poor judgment, emotional instability, semiconsciousness, hallucinations, and delusions.)
	Many deaths due to barbiturate poisoning are listed as suicides.		
	The use of barbiturates following the intake of alcoholic beverages may prove to be a fatal combination of drugs.		

Reference	Concepts	Learning Activities	Information
	A person intoxicated with barbiturate drugs may in an irresponsible moment swallow a handful of the pills that will cause his death.	Collect and review newspaper reports of death due to barbiturate poisoning/ suicide.	Barbiturates cause death by depressing the activity of the respiratory control center in the brain. The habitual user of barbiturates is drowsy, confused, depressed, morose, and quarrelsome. Some become hostile, tend toward paranoia, and may be assaultive.
	Tranquilizers, when used in combination with alcohol, increase the intoxicating effects and may cause death.		Persons using tranquilizing drugs should avoid the use of alcohol. It is entirely possible to experience extremes in intoxication.
1. Withdrawal Illness	Withdrawal illness in barbiturate dependency is more severe than with any opiate drug. Medical withdrawal for the barbiturate habituent may take months. The number of barbiturate addicts is unknown. It is estimated to be in the thousands.		Withdrawal symptoms start with hyperactivity tremors and insomnia followed by a grandmal convulsion and/or a temporary psychosis similar to delirium tremors. Death may occur with the sudden withdrawal of the drug. Attempted withdrawal from barbiturates without medical supervision is dangerous. Even gradual withdrawal from barbiturates under medical supervision involves a risk. Barbiturate habituents are not eligible for treatment at Public Health Service Hospitals.

Reference	Concepts	Learning Activities	Information
III. Marihuana	Marihuana comes from the flower and leaves of the Indian hemp plant. Marihuana is smoked in the form of cigarettes that look homemade (reefers).	Supplemental aids should contain pictures of marihuana cigarettes.	Most marihuana entering the country comes from Mexico. It can, however, be grown in this country.
	Marihuana generally results in people being less inhibited. It often results in unpredictable behavior, hallucinations, and sometimes, violence.		While an undesirable drug, studies have shown that the use of alcohol is more closely associated with violence than marihuana.
	The unstable person using marihuana may become psychotic.		The drug results in talkativeness, psychomotor activity, followed by a feeling of calm and relaxation, and possible sleep. Similar misleading reactions occur when people are under the influence of beverage alcohol.
	While marihuana is not addicting it often leads to the use of stronger addicting drugs.	Discuss the circumstances and atmosphere in which marihuana is smoked. How is this inducive to experimentation with more dangerous drugs?	
	Marihuana is classified as a narcotic drug.		Pharmacologists and other authorities classify it as an hallucinogenic drug.
	Marihuana can become a strong habit forming drug.	Film: "Marihuana"- Available locally through the Pima County Sherriff's Department.	

Reference	Concepts	Learning Activities	Information
	The 1937 Marihuana Act forbids the sale, manufacture, importing, prescribing, or administering of the drug.	Local law enforcement officiers may be available to talk to groups on narcotics and drug abuse.	Studies conducted in countries where marihuana is smoked by habitual smokers (6 or more cigarettes a day) show a definite relationship with a high incidence of drug induced mental illness.
IV. Stimulants			
A. Cocaine	Cocaine was once commonly used as a local anesthetic. It has been replaced by novacaine. The addict using cocaine often has hallucinations and may commit violent crimes under its influence. Physicial dependence does not develop with cocaine and so no withdrawal illness is associated with it. It is, however, a strong habit forming drug.	See supplemental aids for picture of cocaine powder and leaves. See glossary of drug users terms for slang expressions related to cocaine.	Cocaine comes from the leaves of the coca plant. Cocaine can be absorbed through the mucus membranes and is breathed in ("snorted") by the addict. The drug causes a feeling of exhilaration and self-confidence. As the drug wears off the person feels weak, depressed, and irritable. Tremors, digestive disturbance, confusion, and muscular weakness may follow.
B. Amphetamines (Benzedrine) and Related Compounds	Amphetamines serve to stimulate the central nervous system. They are often referred to as "pep pills."		Because they act as body stimulants and depress appetite, physicians sometimes prescribe diet pills that contain amphetamines to overweight people.

Reference	Concept	Learning Activities	Information
1. Medical Uses	Amphetamines help to reduce swelling of mucus membranes during a cold, so small amounts may be used in inhalers for this purpose.	Invite a pharmacist to discuss his precautionary practices to prevent abuse of prescription drugs.	These prescription drugs should not be given to others. Prescription doses are determined by the person's height, weight, age condition of health, etc. Prescriptions are personal.
	Stimulant drugs produce a feeling of well-being and are sometimes prescribed by the physician to help people overcome feelings of depression.		Continued use of amphetamines results in a type of chronic poisoning. The drug produces a feeling of well-being and exhilaration which is followed by fatigue and depression.
	Amphetamines are sold only on prescription.		
2. The Misuse of Amphetamines and Their Effects	Overdoses of amphetamines can result in a loss of judgment. People under their influence feel capable of, and may even attempt, impossible dangerous feats.	Film: Drug Abuse--Bennies and Goofballs	Symptoms produced by overdose of the drug include tremor, insomnia, loss of appetite. Psychosis and paranoid delusions may occur in some individuals.
	Continued abuse of the drug could result in hallucinations and a psychotic state.	Invite a psychiatrist to discuss the psychological effects of drugs.	Truck drivers who habitually use these drugs to stay awake on long trips may be involved in tragic accidents.
	The alternate use of barbiturates and amphetamines can lead to serious mental illness or barbiturate poisoning.		The alternate use of barbiturates and amphetamines often leads to overdosing with both.

Reference	Concepts	Learning Activities	Information
	Overuse of amphetamines can result in dependence ranging from mild habitation to true addiction.		Nicknames for trademark amphetamines: amphetamine sulfate- "bennies" "co pilots" dextroamphetamine sulfate- amphetamine sulfate- "footballs"
C. Hallucinogenic Drugs	LSD (lysergic acid diethylamide) and peyote are examples of hallucinogenic drugs.		LSD is synthesized in the laboratory, peyote comes from the peyote cactus of the American southwest. Mescal beans and certain Mexican mushrooms are other sources of hallucinogenic drugs.
	LSD is being used experimentally by psychiatrists to treat alcoholics and mentally ill patients. The reactions to the drug are often unpredictable. Pranksters and "thrill" seekers have used the drug with psychosis, crime, and death sometimes resulting. One ounce of LSD can provide an average dose for 300,000 people.	A prankster gives LSD to another person without that person's knowledge, with psychosis, crime, or death a possible result. Discuss what should be the penalty for the prankster. Review newspapers, magazines, and professional literature for reports on increasing numbers of LSD users being admitted to mental hospitals for LSD induced psychosis.	Some experimental data indicates patients develop greater insight into their problems as a result of treatment with LSD. Under the influence of the drug, a person might step out in front of a car because he feels it can't hurt him. Mental disorganization or epileptic seizures sometimes are reaction in other users.

Reference	Concepts	Learning Activities	Information
	One dose of LSD may cause permanent or prolonged psychological damage.	Discuss current penalties for possession of LSD. Are they adequate?	Some LSD users have reported pleasant productive "trips" where math problems are solved, perceptions are keener, self-understanding greater. Others feel that the ability of the LSD user to self-evaluate his drug experience is probably as accurate as the inebriated person's estimate of his ability to "lick the world."
	LSD does not seem to be addicting or habit forming.		LSD has a potential if misused to be the most dangerous drug of all.
	Long term effects of the drug on the brain are unknown.		
	The drug is considered so dangerous that it is not legally available by prescription.		
	While psychiatrists work very carefully with this potent drug, pranksters and "thrill" seekers who obtain the drug illegally serve as menaces to the community as well as to themselves.		
D. Tranquilizers	Tranquilizers were initially used on mental patients because of their quieting effects making the patient more receptive to psychotherapy.		

Reference	Concepts	Learning Activities	Information
	Tranquilizers are now often prescribed for people who are "nervous."	Discuss with a physician the medical uses of these drugs.	
	Tranquilizers are strong habit forming drugs. Six have been identified as being capable of addiction.		One-half million pounds of tranquilizing drugs are used in the United States each year.
	Alcoholic beverages in combination with tranquilizers have at times proven to be a lethal combination.		
	Many automobile accidents are due to people driving while under the influence of these drugs.		
V. Drug Traffic			
A. Sources	Raw opium gathered by Turkish farmers is converted into a morphine base and shipped to Italy and France where it is converted to heroin. The heroin is then smuggled to the eastern United States.		
	Asiatic countries are also opium producers and smuggle heroin into the west coast of the United States.		

Reference	Concept	Learning Activities	Information
B. Control Measures	The Federal Bureau of Narcotics, a part of the U.S. Treasury Department, has agents around the world in attempts to reduce heroin traffic into this country.		
	The Federal Bureau of Narcotics works with local and state agencies to control narcotic traffic.		
	The U.N. has attempted to act as the controlling agency for all opiate drugs in world trade.	Why has the U.N. been limited in its attempts to act as a controlling agent for the sale of opiate drugs? What are the factors related to the U.S. being the major "market" for illegal drug traffic?	Small countries that produce opium receive large incomes from the sale of these drugs. With U.N. control of drugs, they would be used for medical uses only, which would result in a loss of income. Disagreements on the prices to be set for these drugs is another factor.
	The U.S. is the principal target of the illegal narcotic drug trade, with New York City its largest addiction center.		

Reference	Concept	Learning Activities	Information
VI. Legislation			
A. New York	New York State's Metcalf-Volker Act of 1963 gave arrested addicts the opportunity to seek voluntary commitment to a hospital and thus avoid a jail sentence.	Invite a local legislator to discuss current drug legislation and its contributions to drug control.	The Metcalf-Volker Act has not been as successful as hoped since a large number of addicts leave the hospital before the prescribed time and 90% return to the use of drugs.
B. Federal	The Harris-Dodd Act forbids the excessive refilling of dangerous drug prescriptions and requires that records be kept of their manufacture, sale, and distribution. A supreme court decision in 1962 indicated that making addiction of itself a crime was unconstitutional since the court regarded addiction as an illness. It further stated that the development of programs of compulsory treatment of the addict might serve the health and welfare interests of the state.		The Harris-Dodd Act amends the Federal Food and Drug Act in the following ways: (1) It requires that records be kept of the manufacture, sale, and distribution of those drugs considered dangerous. (2) Forbids the refilling of a dangerous drug prescription more than five times. Such prescriptions cannot be refilled after a 6 month period of time. (3) Agents of the Food and Drug Administration can now be armed, use search warrants, and make arrests.

Reference	Concept	Learning Activities	Information
			(4) Illegal sale of barbiturates or amphetamines to a minor carries a maximum penalty of 2 years in prison and a $5,000 fine.
			Illegal purchases of drugs can now be detected.
			Previous to this provision a prescription for barbiturates or amphetamines which could be filled indiscriminately led to misuse.
			Sale of narcotic drugs or marihuana to minors carries a severe penalty of 10 to 40 years imprisonment and up to a $20,000 fine.
	In 1966, the New York legislature passed a bill making it mandatory for every addict to receive hospital treatment for an extended period.	Discuss current drug legislation with regard to its strengths and weaknesses.	A special penalty for the sale of heroin to a minor could include life imprisonment.

Reference	Concept	Learning Activities	Information
	While laws and enforcement are helpful in attempts to control drug use and abuse, judicious use of these substances by the individual is his and society's greatest protection.		In 1961, California law provided that the addicted person volunteer or be sentenced to a rehabilitation center for at least 6 months, and if found necessary, up to 5 years. The prisoner or volunteer is released on parole but must remain drug free for 3 years in order to be discharged.
VII. Rehabilitation of the Addict	While the addict may be regarded as a criminal in our society, he is also regarded as being ill.		
A. Varied Facets of Rehabilitation	An addict may be treated by a private physician. Physicians who choose to give such treatment do so in a hospital setting where the amount of drug reaching the patient can be controlled.		The AMA does not recommend any treatment procedures whereby the addict is given drugs for self-administration. Many physicians in private practice shy away from treating addicts in fear of prosecution. Some just do not want to get involved.
	Federal hospitals in Lexington, Kentucky and Fort Worth, Texas were the first to treat addicts.		There are now a number of hospitals in New York State for the treatment of the addicted.

Reference	Concept	Learning Activities	Information
	The first phase of treatment consists of withdrawing the addict from the drug (detoxification).		Detoxification may take anywhere from 4 to 12 days.
	Methadone may be substituted for the drug used by the addict, and the dose is gradually diminished.		
	The most difficult phase of rehabilitation for the addict is his learning to face up to life's responsibilities without the use of drugs.		Narcotics Anonymous is an organization designed along the same lines as Alcoholics Anonymous. To date, it has not received much support, financial or otherwise. This is probably so because of suspicion of even the rehabilitated addict.
	Most addicts are described as immature, easily frustrated, and incapable of assuming responsibility. They may be demanding and stubborn.	Give an analysis of these factors that leads to addiction to drugs. How can this problem be prevented?	
	Psychotherapy is helpful in assisting the addict to adjust to a drug free life.		

Reference	Concept	Learning Activities	Information
	Vocational rehabilitation is often necessary if the addicted are to assume responsible positions in our society.		Some psychiatrists in the field feel that the addicts are not with them long enough for treatment to be effective.
	The addict released from the hospital and going back to his old haunts and problems often has little chance of remaining drug free.		Over 90% resume the use of addicting drugs.
	A drug (cyclazocine) may be given to the drug patient after detoxification to reduce the urge to return to the use of morphine.		Halfway Houses provide a method of controlling socioeconomic factors which may contribute to addiction. This may prevent the person from slipping back into the old pattern of behavior. Halfway Houses provide quarters that have none of the same environmental influences as the original living conditions. Good diet, clean surroundings, and the support of friends is important.
	Greater research efforts are needed to develop better treatment and prevention methods for this illness.		
		Review the literature and report on the new approaches to the rehabilitation of the addicted.	There is a "maturing out" process that sometimes occurs as a result of a person solving the problems that led to addiction in the first place. This sometimes happens when a person reaches his thirties.

Reference	Concept	Learning Activities	Information
			Following detoxification (becoming clean) when the system is free of drugs, an orally administered drug (cyclazocine) seems to be effective in staying the urge to return to morphine. It serves to combat the euphoric effects of drug use.
			Synanon: The Synanon Foundation, Inc. is about 7 years old. The Synanon staff act on the premise that the addict's behavior is stupid. A living environment is provided in which models of behavior include previous addicts who have discontinued drug use.
	Recent State Legislation established The Narcotic Addiction Control Commission to administer the program which provides treatment for the addict and punishment for dealers in narcotics.		Day-Top Lodge: This is similar to Synanon but it is administered by the Supreme Court of the State of New York and all inmates are on parole.

Reference	Concept	Learning Activities	Information
B. Britain's Approach	Addicts are not regarded as criminals in England, but as ill people.		
	English physicians who prescribe drugs for the addict must make every effort to withdraw the addict from his drug.		
	In 1959 there were only 454 known addicts in Britain, 753 in 1964, and 927 in 1965. While the problem is really not comparable with the United States it is of increasing concern.		
C. Varying Approaches in the United States			
1. Penal Approach	The addicted or dependent person should be severely dealt with in the courts. Dope peddlers should be heavily punished, including the death penalty.		Some people feel that the penal approach has failed as evidenced by the incidence of addiction in the United States.
2. Clinic Approach	Set up clinics to administer drugs to addicts. Legalized drugs would do away with the underworld business in illegal		

Reference	Concept	Learning Activities	Information
	drugs. This would reduce recruitment of new addicts, increase possibilities for needed research in the area. Incidence of addiction would become known.	Assemble a panel to gather materials and then present varying points of view on how the addiction problem should be handled.	Those who favor the penal approach feel that the setting up of clinics for free drugs is to perpetuate the problem. They point to a rather disorganized effort in the 1920's to set up clinics as proof of failure of this approach.
	Drug addiction cannot be cured by incarcerating the addicted.		
3. Rehabilitation Centers	An addicted person is committed (voluntarily or otherwise) to a rehabilitation center for a stated period of time during which he is withdrawn from the drug and given therapy.		Recent legislation passed in New York State that would commit an addict to a rehabilitation center for a 3-year period has elements of the penal and clinical approaches.

NARCOTICS

BIBLIOGRAPHY
(Books)

Abramson, Harold A., M.D., *The Use of LSD in Psychotherapy and Alcoholism*, The Bobbs-Merrill Company, Inc., A subsidiary of Howard W. Sams Co., Inc., Publishers, Indianapolis.

Beckman, Harry, M.D., *Dilemmas in Drug Therapy*, W.B. Saunders Company, Philadelphia and London, 1967.

Buckwalter, J.A., *Merchants of Misery*, Narcotics Education Inc., 1961.

Carey, James L., *The College Drug Scene*, Prentice-Hall, Inc., Englewood Cliffs, N.J., 1968.

Chaber, M.E., The Acid Nightmare, Holt, Rinehart and Winston, New York, 1967.

Cohen, Sidney, M.D., *The Beyond Within-The LSD Story*, Antheneum, New York, 1968.

Drug Abuse: Escape to Nowhere, Smith, Kline and French Laboratories, 1967.

Hyde, Margaret O., *Mind Drugs*, McGraw-Hill Book Co., New York, 1968.

Nowlis, Helen H., Drugs on the College Campus, 1967.

O'Donnell, John A. and John C. Ball *Narcotic Addiction*, Harper and Row, New York and London, 1966.

Special Time-Life Report, *The Drug Takers*, Time Incorporated, New York, Distributed By Narcotics Education, Inc., P.O. Box 4390, Washington, C.C.

NARCOTICS

BIBLIOGRAPHY
(Pamphlet)

A Doctor Discusses Narcotics and Drug Addiction; Relin, Louis; Budlong Press Company, 5428 N. Virginia Avenue, Chicago, Illinois, 60625, 1968.

Amphetamines, American Medical Association, 1968.

Barbiturates, American Medical Association, 1968.

Drugs of Abuse, FDA Papers, July 1967, Food and Drug Administration, Washington, D.C.

Glue Sniffing, American Medical Association, 1968

Instant Insanity, Narcotics Education Inc.

Let's Talk About Drugs, Lindsay R.Curtis, M.D., 1969, Tame Press, Dallas, Texas.

LSD, American Medical Association.

LSD A Trip Without a Return Ticket, Colleen Curtis, Narcotics Inc.

LSD Some Questions And Answers, National Institute of Mental Health, Box 1080 Washington C.C. 20013.

Narcotics Addiction Whose Problem?, Arthur K. Berliner, M.S. Public Health Service, Washington, D.C.

Narcotics Some Questions and Answers, Public Health Service Publication No. 1827.

Questions and Answers LSD, Michigan Department of Education, August 1968.

Students and Drug Abuse, N.E.A. Journal Reprint, 1968.

The Up and Down Drugs, National Institute of Mental Health.

Uses of LSD, Bobbs Merril Co.

BIBLIOGRAPHY
(Pamphlet . . .con't)

What Drugs Are and What They Do, Narcotics Education Inc.

NARCOTICS

BIBLIOGRAPHY
(Films)

Drug Addiction, University of Illinois, 22 mins. B/W,
SSAV ASDH j-H-A

"H" The Story of a Teen-age Drug Addict, 22 Mins. B/W,
ASDH sh-c-ad

Huffless, Puffless Dragon, color, American Cancer
Society, p-e

LSD-Insight or Insanity, Bailey-1967, 18 mins., B/W,
U of A sh-c-ad

Monkey of the Back, NFBC: McGraw-Hill-1955, 28 mins. B/W,
U of A c-ad

Narcotics-Pit of Dispair, Film Distributors - 1966,
25 mins., color sh-c-ad

Narcotics-Why Not, Cahil-1966, 15 mins. color,
U of A sh-c

NARCOTICS

BIBLIOGRAPHY
(Magazines)

But, Mom, Everyone Smokes Pot, Sylvie Reice, Readers' Digest Reprint 1968, Pleasantville, N.Y. 10570.

Drug Abuse Control, FDA Papers, Vol.1, No. 3. April, 1967.

Mills, J., "Drug Addiction", Life Magazine, V. 58, Feb. 26,1965.

Drugs: Facts on Their Use and Abuse, Scott Foresman Co.

Drugs and the Students , Education Age, P.15, January 1969.

The Truth About LSD', Warren R. Young, Readers' Digest Reprint 1966, Pleasantville, N.Y. 10570.

The Assassin Flower and Caught in the Web, Daniel Carlsen, Listen 1968.

Marijuana Some Questions and Answers, National Institute of Mental Health.

NARCOTICS

BIBLIOGRAPHY
(Teacher Material)

Drugs - Combination Package; Winston Products For Education, San Diego, Calif.
  1. Flip Chart and Instructors Guide
  2. Marijuana Awareness Packets
  3. Dangerous Drugs Identification Kits
  4. Pocket Cards - Symptoms of Drug Abuse
  5. Master Narcotics and Dangerous Drugs ID Kit

Drugs - Teacher's Resource Notes - Scott Foresman.

Fact Sheets 1 through 18 on Narcotics and Dangerous Drugs; Bureau of Narcotics and Dangerous Drugs, U.S. Department of Justice Washington, D.C. 20537.

Secondary Unit (10-12 Substances that modify mood and Behavior)
  a. 1 Basic Document.
  b. 6 Teaching-Learning guides
  c. 6 Teacher-Student Resourse
  d. 6 Prepared Color Transparencys Sets.
    a. "Predicted Effects of Mood and Behavior Modifiers"
    b. "Hallucinogenic Drugs"
    c. "Dangerous Drugs: Situations of Use"
    d. "Dynamics of Choice Involving Mood and Behavior Modifiers"

AGENCY INFORMATION

Please contact your local office of these agencies. Only extra effort and loss of time will result from contacting directly with their national and state offices. In almost every case, requests are referred from the national and state offices to the local one for reply.

Alcoholic Anonymous, Alameda Plaza, Phone: 622-0471. Contact Rev. Bill Howell, Saint Mark's Presbyterian Church, East 3rd for a speaker on alcohol.

American Cancer Society, 32 North Tucson Blvd., 85716. Phone: 624-8259

American Medical Association, 535 Dearborn Street, Chicago, Illinois, 60610.

Family Services Agency, U.C.C., 3837 E. 2nd, Speakers on drugs.

Health Guide for Elementary Schools of Arizona.

Mental Health Association of Pima County, 4833 East 2nd.

Mental Health Center, 1930 East 6th.

Narcotics Education Inc., 1350 Vella Street, Mountain View, California, 94040.

Pima County Health Department, 151 West Congress, Phone: 792-8511.

Pima County Sheriff's Department, Deputy John Rohr, Drugs and Safety Films, 1300 West Silverlake, Phone: 792-8311

School Resource Officers, Sunnyside District.

Southern Arizona Heart Association, 3844 East Speedway, Tucson, Arizona. Phone: 795-1403

State Department of Health, Frank R. Williams, Health, Physical Education and Recreation Consultant; Suite 207, Executive Bldg., 1333 West Camelback Rd., Phoenix, Arizona, 85013.

Tucson Police Department, Narcotics Control, Detective Swartz.

Tuberculosis and Health Association, 139 South 5th Ave., Phone: 623-1429

University of Arizona, College of Pharmacy. Speakers on Drugs and Drug Abuse; Dr. Piccione or Dr. Chin.

U. S. Department of Health Education and Welfare, Public Health Service, Bethesda, Maryland, 20014.